S. HRG. 101-208

ELIMINATING FLOATABLE REFUSE IN THE NEW YORK AREA

JOINT HEARING

BEFORE THE

SUBCOMMITTEE ON
WATER RESOURCES, TRANSPORTATION, AND INFRASTRUCTURE AND THE SUBCOMMITTEE ON SUPERFUND, OCEAN, AND WATER PROTECTION

OF THE

COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

ON

S. 506

A BILL TO AUTHORIZE THE CORPS OF ENGINEERS TO COLLECT AND REMOVE ALL FLOATING MATERIAL WHEREVER IT IS COLLECTING AND REMOVING FROM NEW YORK HARBOR DEBRIS WHICH IS AN OBSTRUCTION TO NAVIGATION

JUNE 19, 1989

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CONTENTS

OPENING STATEMENTS

Page
Lautenberg, Hon. Frank R., U.S. Senator from the State of New Jersey ... 1
Lieberman, Hon. Joseph I., U.S. Senator from the State of Connecticut ... 9

WITNESSES

Anderson, John, Deputy Commissioner, Connecticut Department of Environmental Protection ... 14
  Written statement ... 129
Boston, Lt. Col. Richard C., Acting District Engineer, New York District, Corps of Engineers ... 30
  Written statement ... 179
Evenson, Eric, Deputy Director for Water Resources, New Jersey Department of Environmental Protection ... 17
  Written statement ... 136
Hershkowitz, Dr. Allen, Natural Resources Defense Council ... 45
  Written statement ... 251
Marsh, Langdon, Executive Deputy Commissioner, New York State Department of Environmental Conservation ... 3
  Written statement ... 54
  Sources of Beach Washups in 1988 ... 65
Muszynski, William, Acting Regional Administrator, Region II, Environmental Protection Agency ... 28
  Written statement ... 170
Schultz, Hon. Harvey, Commissioner, New York City Department of Environmental Protection ... 10
  Written statement ... 122
Sexton, Hon. Brendan, Commissioner, New York City Department of Sanitation ... 19
  Written statement ... 159
Swanson, Dr. Lawrence, Director, Waste Management Institute, State University of New York ... 38
  Written statement ... 186
  Letter to Senator Lieberman ... 197
  Floatables Management Plan ... 203
Zipf, Cindy, Clean Ocean Action ... 42
  Written statement ... 246

ADDITIONAL MATERIAL

S. 506 ... 271
Statements:
  D'Amato, Hon. Alfonse M., U.S. Senator from the State of New York ... 2
  Kramer, Morris H ... 261

ELIMINATING FLOATABLE REFUSE IN THE NEW YORK AREA

MONDAY, JUNE 19, 1989

U.S. SENATE, COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS, SUBCOMMITTEE ON WATER RESOURCES, TRANSPORTATION, AND INFRASTRUCTURE, AND SUBCOMMITTEE ON SUPERFUND, OCEAN, AND WATER PROTECTION

New York, NY.

The subcommittees met, pursuant to notice, at 9:30 a.m., in the Oval Room, 43d floor, World Trade Center, New York, NY, Hon. Daniel Patrick Moynihan (chairman of the Subcommittee on Water Resources, Transportation, and Infrastructure) presiding.

Present: Senators Moynihan, Lautenberg, and Lieberman.

Senator MOYNIHAN. Good morning. We have a small but very consequential audience here.

This is a joint hearing of the Subcommittee on Water Resources, Transportation, and Infrastructure, which is the subcommittee I chair, and the Subcommittee on Superfund, Ocean, and Water Protection, a subcommittee chaired by Senator Lautenberg who has been delayed. He will be here shortly and I will place his statement in the record at this point.

Senator D'Amato had hoped to be here but he can't make it. He has a statement which also will be placed in the record.

[The statements referred to follow:]

OPENING STATEMENT OF HON. FRANK R. LAUTENBERG, U.S. SENATOR FROM THE STATE OF NEW JERSEY

This morning, the Subcommittee on Superfund, Ocean and Water Protection which I chair, and the Subcommittee on Water Resources, Transportation and Infrastructure, which Senator Moynihan chairs, will explore efforts to reduce the garbage, junk, medical waste, and other floatables that have littered our beaches and spoiled our coastal waters.

I'm pleased that Senator Moynihan and Senator Lieberman are participating at this hearing. Senator Moynihan is one of the leading environmentalists in the Senate and he and I have worked closely on numerous bills to protect our coasts. And Senator Lieberman, although the newest member of the Senate Environment Committee, already has established himself as one of the Committee's most active and concerned members.

Our shore and ocean waters have been under attack . . . attack from untreated sewage; ocean dumped sludge; industrial waste; polluted run-off; and medical waste and garbage accidentally or intentionally dumped into our waters.

We've been fighting back—to ban ocean dumping of sludge; to track medical waste; to fund sewage treatment facilities; and to set tough standards for garbage barges. But, the war isn't won.

We've called this hearing today to review our strategy in the battle to control floatables in our region. I'm talking about the garbage, the debris, the floatables, that soil the beauty of our beaches and water. They threaten the health of our people and disrupt their enjoyment of our beaches and waters. They strangle and choke fish, seabirds and marine mammals. They interfere with navigation. And they have dealt a heavy blow to our coastal businesses. According to one estimate, losses in New Jersey last summer ranged from $1 to $3 billion.

Floatables in our marine environment are unacceptable. It's about time we cleaned up our waters—so that the only man-made things that float off our beaches are boats and boogey boards.

I'm pleased that Federal, State and local governments have come together to implement a plan to keep floatables out of our waters and off our beaches. Over a year ago, I wrote to the Assistant Secretary of the Army asking that Army Corps vessels be used to collect floatables. Unfortunately, the Assistant Secretary declined to participate in the floatables effort last year. I'm pleased that the Corps of Engineers this year agreed to use its drift wood collection vessels to collect floatables in the Harbor.

But I'm not satisfied. The efforts that are being made are important, but they are short-term emergency measues. We need to address the major sources of floatables, like combined sewer overflows and storm water discharges. When it rains hard, our sewer systems are overloaded and the rush of water carries pollutants out to sea. We need to control non-point source pollution—the runoff from streets and lands. And we need to improve the garbage operations at the Fresh Kills Landfill and associated marine transfer stations.

And our society needs to reduce the amount of waste we generate and recycle as much of the waste that we do generate as is possible. Waste that we don't generate is waste that can't get into our coastal waters.

I look forward to hearing the ideas that our witnesses have to eliminating floatables from our precious marine environment.

STATEMENT OF HON. ALFONSE M. D'AMATO, U.S. SENATOR FROM THE STATE OF NEW YORK

Mr. Chairman, I would like to commend you for holding this hearing on the floatables problem in the New York, New Jersey and Connecticut area. This serious issue affects the millions of people whose recreational needs and livelihoods depend on the health of our coastal waters.

As millions of area residents flock to the seashore this summer they are expecting to find that their beaches are no longer under seige from syringes, sewage and garbage as they were last year. Memories of numerous beach closings last summer still cling freshly in their minds.

The impacts of beach closings were quite significant in New York, especially on Long Island. New York State officials reported that attendances at Jones Beach State Park was off 50 percent from 1987 and off 45 percent at Robert Moses State Park. Many businesses on the Island's south shore reported that their profits were off 60 percent over 1987. Many in the Island's seaside communities fear that a repeat of the events of last summer will lead to a drop in real estate values.

One thing is certain as the 1989 beach season begins, the events of last summer must be avoided. To do so we must closely examine the causes of the wash ups. Today's hearing is an opportunty to evaluate ongoing efforts to eliminate floatables and focus on long term preventative measures.

Many believe that a major source of the floatables are combined sewer overflows or CSO. Senator Moynihan and myself have recently been in contact with the EPA's Acting Administrator William Muszynski to express our concern about the CSO problem and to be updated on EPA's efforts to combat the CSO problem in New York City. The EPA reported that, among other efforts, the City is engaged in a long term strategy to construct various treatment facilities which are not combined sewers. This particular program is expected to cost $1.5 billion over the next ten years.

Just last week, I joined Senators Moynihan and Lautenberg in cosponsoring two bills which will strengthen existing laws designed to protect the quality and health of our coastal waters. The Marine Protection Act and the Comprehensive Ocean Assessment and Strategy Act address many sources of marine pollution, including CSO by requiring states to complete an inventory of combined sewers and assess the potential for eliminating the discharges.

The quality of life in our coastal areas is so dependent upon our marine resources. We must act now to protect them from further degradation before we lose this most precious and valuable resource.

Thank you, Mr. Chairman.

Senator MOYNIHAN. We will start with our first panel: Mr. Evenson, Mr. Marsh, Commissioner Schultz, Commissioner Sexton, and Commissioner Anderson—commissioners all.

You understand our purpose, which is really to ask how things look to you, what we should be doing. We have legislation, S. 506, that asks the Corps to get involved in this subject; but mostly, let's hear what you think and what you feel you know.

If I could just make a general point, we are trying to introduce a measure of scientific—"rigor" is not the word, but some measure of science, a number of sciences, into some of our calculations here in the whole environmental area. There are those who argued in the past that research is an excuse for not doing anything. I have discovered in the 1980s that the absence of research is an even better excuse for not doing anything if you don't want to do anything. Things like acid rain, which we have argued for a long time, is a complex matter. I managed to get a little legislation passed in 1980, the only bill so far to pass, on acid rain, the National Acid Precipitation Assessment Program. We have put $450 million into it, as Mr. Marsh knows, and they are coming up with some things that are turning out to be complicated. If you open your New York Times this morning, you find that acidic rainfall in the Congo is higher than it is in the Adirondacks. So explain that.

Just like this whole ocean question—I don't know whether we have a sewage problem or a wind problem or what kind of problem.

Before my dear colleague and greatly respected friend gets here, I am going to say that I was very dubious about the decision to cease ocean dumping. I thought we had found a pretty good arrangement; we were out there in the stream where there was no bottom, and anything that moved, moved in the direction of Scotland. But that wouldn't do. That's the perils of the moment, and that's all I'm going to say.

Is Mr. Evenson not here?

[No response.]

Senator MOYNIHAN. All right, Mr. Marsh, you are first, sir, and then Mr. Schultz, and then Mr. Anderson. Good morning. It's very nice of you to be here.

STATEMENT OF LANGDON MARSH, EXECUTIVE DEPUTY COMMISSIONER, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Mr. MARSH. Thank you. It is nice to be here.

Senator MOYNIHAN. You don't have to say that. You would much rather be getting your job done.

But we are all in this together.

Mr. MARSH. I am Langdon Marsh, Executive Deputy Commissioner of the State Department of Environmental Conservation. I am here on behalf of Commissioner Thomas C. Jorling to talk about our department and the State's program to prevent beach pollution and floatable waste; and where prevention is not possible, to ensure rapid response in cleanup. I will also comment on your legislation, S. 506, to authorize recovery of floatable debris under the auspices of the Harbor Drift Removal Program, conducted by the Corps of Engineers.

Our prevention program centers on the sources that were identified in the department's report, "Investigation of Sources of Beach Wash-Ups in 1988"——

Senator **MOYNIHAN**. Why don't we put that in the record?

Mr. **MARSH**. I will submit that for the record. (See p. 65.)

I would like to go over the various sources of beach pollution that are identified in the report and indicate what has been done and what should be done.

Senator **MOYNIHAN**. We have put the report in the record. Tell me what you think I should know and what your colleagues should know. C-Span isn't here, so we can learn something from one another. [Laughter.]

Mr. **MARSH**. Good.

The first area is combined sewer overflows, which——

Senator **MOYNIHAN**. If I could just make one last interruption, is it the case that just a light rainfall will double the volume of water entering the sewer system?

Mr. **MARSH**. That is correct.

Senator **MOYNIHAN**. So, it doesn't take much to overwhelm these things, just a little drizzle, a good half-hour rain.

Mr. **MARSH**. And that results in the average volume of combined sewer overflows in the city being 170 million gallons a day. Of course, that doesn't happen every day, but that's the average over the year, compared with 1,800 million gallons per day which are treated.

Now, of course, among the debris discharged with the diverted flow——

Senator **MOYNIHAN**. Is that 10 percent——

Mr. **MARSH**. That is pretty close to it.

Senator **MOYNIHAN** [continuing]. Of the treated sewage is overflow into the storm sewer system?

Mr. **MARSH**. That's correct. And then it exits at some 430 points around the harbor and the rivers.

Senator **MOYNIHAN**. Exits untreated?

Mr. **MARSH**. Untreated. That's correct.

Senator **MOYNIHAN**. That's a pretty good number.

Commissioner Schultz, 10 percent is your——

Mr. **SCHULTZ**. Yes.

Senator **MOYNIHAN**. And at the end of the year it will have been 10 percent?

Mr. **SCHULTZ**. Surely. I would say it is higher than 10 percent. I do not have the figures.

Senator **MOYNIHAN**. But it is not an insignificant number.

Mr. **SCHULTZ**. The important thing is, I think, that after every rainfall the beaches are closed near these sewage treatment plants because of that overflow.

Senator **MOYNIHAN**. You learn something every day.

Mr. **SCHULTZ**. Not necessarily near the plant, but at the outfalls—the bypasses. Those could be far from the plants but close to the bypasses, not necessarily near the plant. But it would be in that vicinity. It would be in the drainage area for that plant.

Senator **MOYNIHAN**. Commissioner Schultz, welcome to you.

Mr. **SCHULTZ**. One of the things that created so much consternation and furor last year was——

Senator **Moynihan**. Just a moment. We just got started. We haven't heard from a single "Jerseyite" yet.

Mr. **Evenson**. We were learning the subway route. Good morning, Senator.

Senator **Moynihan**. I thought you'd gotten caught in traffic.

Mr. **Evenson**. Well, we decided to try it the other way. Sorry.

Senator **Moynihan**. That's all right.

Mr. **Evenson**. Good morning, Senator.

Mr. **Marsh**. Along with the untreated sewage comes a great deal of debris that reaches the sewer system through the discharge into toilets or through catch basins. Among that debris is included a number of syringes and other medical-type wastes. We estimate that there are some 60 to 120,000 such syringes being placed in the solid waste stream or discharged through sewers, and it is not clear what proportion goes through each.

Our permits for the wastewater discharges in the city require a massive combined sewer overflow abatement program, and the city has committed an enormous sum of money, $1.5 billion, to the project in its ten-year capital budget.

This abatement program is a mammoth task. As I mentioned, there are 430 overflow points in the city, alone, and that is going to be a tremendous task to correct.

Now, our most recent issuance of these permits placed a phased moratorium on new connections based on addressing this overflow capacity problem. These measures are also intended to control floatable debris at the treatment plants as much as possible. And there are a number of other——

Senator **Moynihan**. Can I just say that Senator Lieberman, our colleague, has joined us.

Mr. **Marsh**. Good morning, Senator.

Senator **Lieberman**. Good morning.

Senator **Moynihan**. This is Mr. Marsh, who is the Executive Deputy Commissioner of the New York State Department of Environmental Conservation.

Senator **Lieberman**. Thank you, Mr. Chairman. I appreciate it. May I say that I am pleased to be here.

After we finish settling the region's waste problems, can we concentrate on the regional transportation problem?

Mr. **Marsh**. Please, don't give me more responsibility.

So there are a number of other CSO abatement activities in the harbor, as well. Mr. Schultz' department is conducting a pilot study on using something called "dunkers" or "curtain booms" to control some of the waste coming from the outfalls.

Turning briefly to the second source of floatable debris, solid waste handling—particularly the marine transport of solid waste—you should note that over half, or 14,000 tons per day, of the city's municipal solid waste is carted by barge to the Freshkills Landfill. There are a number of permit conditions that have been tightened in those operations in the last year requiring covered barges, booms surrounding the transfer stations, and that is in addition to other requirements that have been placed in the past such as the triple boom system, a new hydraulic crane and skimmer vessels, all of which we hope will prevent whatever amount of the problem was caused by that source last year.

Medical waste handling is another area where we have considerably tightened the regulation of medical waste transport and disposal since last year's beach wash-up incidents. We have new laws and regulations intended to prevent wash-up, including a manifest system prepared in cooperation with New Jersey, and it requires all generators of over 50 pounds per month to write out a very onerous—I guess they would consider it onerous—manifest system to track it all. We are also requiring medical professionals who self transport waste to fill out a similar but simpler manifest form.

There is new legislation which the governor has proposed this year which would create a comprehensive system to regulate and track medical waste. It includes expanding the class of waste that would have to be regulated and, in 1992, it would call for all waste that could be classified as patient or laboratory care waste to be regulated, as well. That would be something like the doubling of the amount of waste that is currently regulated.

There will be more stringent reporting and tracking, and much more stringent criminal penalties for illegal disposal.

Last year, as you may recall, the governor asked for and received a $2 million appropriation from the State legislature for clean-up communications and enforcement equipment and some additional vessels and for increased staffing for enforcement. The beach response network has also been tightened so that our environmental conservation officers will be contacted more expeditiously when material that has evidentiary value is discovered on the beaches.

There have been, of course, a few incidents which were tracked to criminal disposal activities. Most recently, the U.S. Attorney for the Eastern District has gotten an indictment of a New Jersey resident for dumping blood vials in Edgewater.

Now, a fourth source of this material is street, shoreline, and waterway litter. Our efforts there are both to clean up and prevent that kind of a contribution to the problem.

A major source which your bill addresses is the refloatation from beaches, marshes, sea walls, and other marine edges of debris by high tides and after heavy rains.

There is an ambitious program underway this season using prison labor in a pre-season clean-up of the shorelines, and the slicks of garbage and other material are being picked up after high tides and after rain events and at certain choke points in the harbor, and this floatables action plan in the clearing of slicks involves a very coordinated effort among Federal, State, and city agencies.

Your legislation will positively contribute to this effort by requiring the Corps vessels to continue the clean-up of floatable debris in the harbor under the drift removal program.

The City Department of Environmental Protection has applied for funds to purchase its own vessel for these purposes, but even with the addition of the city-operated vessel, the involvement of the Corps ought to be required in the future, and your bill to explicitly direct such involvement is welcomed and we support it strongly.

Finally, educational programs have to be an important part of our effort in prevention. Educating citizens about the sources of debris and citizen responsibility for controlling litter is very important.

We have issued a number of newsletters and posters and held several beach clean-up days which have been quite successful. The Department of Health has issued guidance to the public. The State University at Stony Brook, the Marine Science Research Centers Coast Institute, is preparing some public education materials with a grant from the Urban Development Corporation. A number of other organizations are also involved.

Now, response is always going to be an important aspect of our program since we will not be able wholly to prevent all beach debris from washing up. We have already seen a few syringes early this summer, and with the vast number of people who use them it is only a matter of time before we see spottings of such material on the beaches.

But we have, different from last year, developed, together with the beach operators, some guidance on identification of what really is medical-type debris. There was a good deal of confusion last year on what constituted medical debris, and plastic implements that had nothing to do with medical treatment were identified as medical debris. So identification is important.

We also found that last year the beach operators did not have a consistent, uniform set of criteria on which to determine whether there was sufficient debris to warrant closing of beaches and we have, with the Health Department and the State Parks Department, come up with some guidance for beach operators on criteria for beach closing and re-opening.

Senator MOYNIHAN. Is that getting to be something a good public health official knows how to do? The Jersey shore, as you say, and the New York beaches and the Long Island Sound—I guess we all have a different way to drive to the edge of the ocean—would the same criteria be used?

Mr. EVENSON. The problem is the same whether it is the Jersey Shore, the New York beaches, or the Long Island Sound. In Connecticut it is up to the local health official to determine whether a beach would stay open or closed. Last year they were really caught flat-footed with this medical degree and the hype that was in the press, so when they found one or two syringes on the beach they closed the beach automatically. This year I think at least in Connecticut we have a better handle on it as far as the communication between the State and the municipality in order to take a more solid approach when they do find something.

Senator MOYNIHAN. Would it be possible to assume there is going to be a level of good practice and that it would be sort of uniform as between the three states and the 79,000 jurisdictions?

Mr. MARSH. It is certainly our hope that it will be uniform. We have tried to follow some of the teachings of the New Jersey effort, which had a year's start on us in doing some of this response and identification and communication activity. So we have tried to follow that as much as possible in our response network.

What we have in place this year, which we certainly didn't last, is a much better information network among the beach operators. The State Office of Parks, Recreation, and Historic Preservations through its Jones Beach Operation has agreed to coordinate that and it has installed communications equipment for prompt notification in the events of wash-ups or closures.

Senator Moynihan. I said earlier to my colleagues that I hoped the commissioners would just talk among themselves so we could learn something here.

Mr. Schultz. I don't believe there is a uniform standard, and I think it falls into two different categories. If the coliform levels are high, that's a matter of science and a matter of water quality monitoring——

Senator Moynihan. You can measure that.

Mr. Schultz. Right.

Senator Moynihan. And get the same measurement in the Long Island Sound that would be on the Jersey shores and also in——

Mr. Schultz. Correct. And it can be one standard.

Senator Moynihan [continuing]. Valdez, Alaska.

Mr. Schultz. Yes. And the health commissioner should be in charge of that. But when it comes to floatables coming on beaches, that's more of a judgment call than a bacteria level fall and probably recreation officials, in conjunction with health officials, should make that judgment, given their ability to clean, their ability to open up a beach after they have had a wash-up.

Senator Moynihan. It would be nice to think that the officials who are going to make these decisions are talking to each other.

Mr. Evenson. It would be nice to think that all officials talked to one another, Mr. Chairman. The fact is that these jurisdictions are often in very competitive situations because—let me speak for the New Jersey side of this issue—we have these shore communities galore. Each one of them is interested in attracting many tourists and providing as much facility to their summer and all-year residents as they can, and it is very tough.

I think we do need kind of an overall decision-making place that says this water and this beach is unfit for human use this day. It is not only the coliform count, it is debris. If people have to walk daintily through the syringes, I think there is poetry that kind of goes with that that it is not fun. Toe dancing for the purpose of safety is hardly an American exercise. So we have that condition.

It is very tough for an official in a community to say "We're going to close our beach, and to the north we're going to let them continue. We think ours is disgusting, putrid, etc., because we have got this junk coming up." It's very tough.

I think what we're doing here, in all fairness, is trying to attack the problem gently. This isn't an exclusive problem of New Jersey. It is also a problem elsewhere. Mr. Chairman, I commend you for having assembled the officials who have something to say about this thing.

My view is that New Jersey seems to collect a lot more than it deserves, and we'll get into the Freshkills Landfill and things of that nature, but we have so much exposure to the north and south that it is an easy place for the ocean to throw back the debris and say we're going to get it back. We look to our neighbors to help us solve the problem. New Jersey has taken a very vigorous position. We lost over a billion dollars' worth of revenue last year in lack of attendance in our beaches.

Senator Moynihan. Senator Lieberman.

OPENING STATEMENT OF HON. JOSEPH I. LIEBERMAN, U.S. SENATOR FROM THE STATE OF CONNECTICUT

Senator **LIEBERMAN**. Thank you, Mr. Chairman.

I have a statement that I will submit for the record and just say that it strikes me that it is a happy accident of fate that the three of us, representing the three States of this region are on this committee together.

Senator **MOYNIHAN**. The committee used to consist entirely of people from the Rocky Mountains.

Senator **LIEBERMAN**. It is nice to be here today with a sense of our common destiny as you look at this region that is linked so many ways—economically, culturally. The waterways are a very intimate link that we all share, so a problem that occurs in one place is very likely going to be a problem for all of us. We all have common problems. The combined sewer overflow runs through the whole region and much of the country.

We have a somewhat different problem in Connecticut. I think more of our problem is probably caused by litter—more of our floatable is from litter rather than some of the garbage that you've got, for instance, in New York Harbor.

It is great that everybody is here together, and I appreciate the efforts of the two of you. Hopefully we can play some leadership role.

We know in Connecticut that if our problem on Long Island Sound is going to be solved, even if we did everything conceivable on the Connecticut side and nothing was done by our neighboring States we'd still have a problem. I'm sure the same is true in the other two States. We're going to have to do it together.

Senator **MOYNIHAN**. Sir?

Mr. **SEXTON**. I would like to say something about New Jersey, New York, and New York City. I think, despite all the indications or possibilities of a terrific antipathy, it hasn't been there. There has actually been a great deal of cooperation between the two States and the two States and the city stretching back a couple of seasons now. Most of the progress that has been undertaken has been cooperative.

Senator **MOYNIHAN**. We can say with some confidence that this is a new subject that has come up in the last couple of beach seasons.

Mr. **SEXTON**. Yes.

Senator **MOYNIHAN**. We could hope that you will move toward some standards of judgment.

[Senator Lieberman's statement follows:]

OPENING STATEMENT OF HON. JOSEPH I. LIEBERMAN, U.S. SENATOR FROM THE STATE OF CONNECTICUT

Thank you Mr. Chairman, I'm pleased to be here today with my distinguished colleagues from New York and New Jersey, and I appreciate their leadership on this issue.

Increasingly, we are acknowledging that pollution—whether of the air or the water or the earth itself—observes no boundaries. In the northeast because of our close proximity to one another, states and municipalities are having to acknowledge this sooner than is the case in other parts of the country. And, I'm happy to observe, we're doing something about it.

We're here today to address the problem of floatable refuse. By its most narrow and frightening definition we knew it last year as "medical waste," and there were many in Connecticut who referred to last summer as "Syringe Summer." We know

now that the medical waste that washed up on shore was really only a fraction of a much larger problem. Floatable refuse by its largest definition is the problem of an increasingly unmanageable waste stream.

Our response to the narrow definition was swift and I think effective. Congress enacted the Medical Waste Tracking Act; the states of Connecticut, New York and New Jersey set up beach watches and clean-ups; cities worked with regional offices of the EPA. I think we'll all agree we face this coming summer much better prepared to respond with certainty and speed to public concern and public fear.

I commend, in particular, the Memorandum of Understanding in the New York/New Jersey Region which has the Army Corps of Engineers involved in cleaning-up the floatable garbage in New York Harbor.

While we in Connecticut do not have the same kind of problem you in New York experience with garbage, we do share the larger problem of Combined Sewer Overflows. And in some cases our problems overlap.

Last summer, the worst series of beach closures Connecticut experienced was due to a sewage slick floating up the East River and into Long Island Sound. We may not have to re-experience last summer's particularly heavy rains and unusual wind patterns which exacerbated the problems, but combined sewer overflows are a problem which are not so easily dismissed.

I am hopeful that we will hear testimony today from our distinguished witnesses on ways to abate the problems of overtaxed sewers and sewage treatment plants. I also look forward to hearing of ways to reduce pollution at its source.

Because we are all so intimately connected by our waterways, it is imperative that we work together. And we must assiduously seek creative methods to deal with old problems.

It's clear that with the Federal Government distancing itself from the heavy costs of upgrading sewage treatment plants, that we will not be able to look to it for extra construction funds to separate our sewers. That is why water conservation to reduce the base flow and modifications in land use regulations at the state and municipal level are so important.

We must at every level on which we do business and in which we go about our daily lives remind ourselves of the consequences of our actions, and our choices. I was surprised, for example, to learn that beyond combined sewer overflows, Connecticut's leading cause of floatable debris washed ashore is good old fashioned litter! From boats, on beaches, and on streets, refuse gets washed into the sound by rainwater, and it returns to the beach with the tide.

I think the citizens of New York, New Jersey, and Connecticut will be proud to learn from this hearing all that their local and State and Federal agencies have done to address their very real concerns about the state of our beaches this coming summer. And I trust that they will dedicate themselves to the choices only an individual can make: to conserve precious resources; to safely dispose of refuse and garbage; to take that extra step when need be. Because whether we pay attention or not, certain truths hold: the waters will continue to flow; the earth will continue to turn; and sometime, somewhere, we will, each of us, be downstream from someone else.

Thank you very much.

Senator MOYNIHAN. Commissioner Schultz, you're next.

STATEMENT OF HON. HARVEY SCHULTZ, COMMISSIONER, NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Mr. SCHULTZ. Thank you.

Again I want to thank you for the opportunity to appear to speak about floatable pollution in the New Jersey/New York Harbor complex. As we are on the brink of the new bathing season, this is going to get a lot of public attention, and we think it is important.

I don't say this to be amusing or to say "Believe it or not," but to give some historical perspective. New York City began its work on combined sewer overflow almost 40 years ago. The projects and programs resulting from work begun in the 1950s and from extensive investigatory studies during the mid 1970s have been implemented and will be producing, hopefully, the anticipated and desired water quality improvements.

Since each outfall must be scrutinized—and Lang Marsh said there are 430 in New York City, alone, and he's correct—evaluated, and resolved on an individual basis, it is highly technical and detailed work that has to be done. In fact, we think today we can demonstrate currently that we're doing it.

However, all of our efforts will be for nothing if we are not joined in this effort simultaneously by our partners in the harbor.

Senator MOYNIHAN. Commissioner, can I just say that we'll put your statement in the record. You ought to just tell us——

Mr. SCHULTZ. OK. I'm happy to do that.

We believe that New York City, particularly, has mounted a very, very effective secondary treatment program, and we are well on our way. After spending close to $2 billion we have North River on Board and——

Senator LIEBERMAN. Not yet for secondary——

Mr. SCHULTZ. Actually, one of the newest sewage treatment plants is at secondary treatment now and one will be very shortly.

Senator LIEBERMAN. Are they fully operational? You have the Red Hook and the North River. Is the North River Plant fully operational at this point?

Mr. SCHULTZ. Yes, it is.

Senator LIEBERMAN. That's primary?

Mr. SCHULTZ. Right. That's primary and will be secondary within a year.

Senator LIEBERMAN. But the Red Hook Plant is at what stage now?

Mr. SCHULTZ. In the Red Hook Plant we are taking sewage now and have been for over a year. We have our recent consent degree deadline on May 1st. That plant is operating very well. In fact, we took Congressman Nowak to it just the other day because of his interest on the House of Representatives side.

Senator LIEBERMAN. And that's primary, as well, but soon to be followed there, I believe, by secondary.

Mr. SCHULTZ. It went to full secondary treatment on April 27, 1989, just ahead of the May 1, 1989 consent decree date.

Senator LIEBERMAN. I think the North River Plant goes secondary slightly after Red Hook.

Mr. SCHULTZ. You are correct.

We are also, however, rebuilding several of our plants while we are operating them as we are operating the two new plants while we are doing the additional work that is required to get them fully on line.

We are doing water pollution control work in Coney Island. We're doing work in Bay Ridge. We are doing facility planning at Newtown Creek. And actually the remaining raw discharge now into the harbor is well under 1 percent of the total amount of sewage on——

Senator LIEBERMAN. That's Tottenville.

Mr. SCHULTZ. That's Tottenville, where we are now building the Oakwood Beach interceptor sewer, which——

Senator LIEBERMAN. Is that less than one percent of the total?

Mr. SCHULTZ. Yes, it is. It is well under 1 percent.

Senator LIEBERMAN. That's a lot.

Mr. SCHULTZ. It is a lot.

Senator LIEBERMAN. It's a big city with 6 million gallons a day.

Mr. SCHULTZ. Well, it is 1,500,000,000 gallons of sewage we treat a day, and we would represent to you that on a raw discharge basis, given mechanical or other failures, we are basically under 1 million gallons a day now, and we can demonstrate that on a factual basis.

Senator LIEBERMAN. I thought Tottenville was over 5 million gallons a day.

Mr. SCHULTZ. I don't believe it is 5 million, but I will get you the exact figures.

But I think that's well in hand, and over the next several years, as the water quality in the harbor has improved in coliform counts and oxygen levels, it will continue to do so. Activity that is monitored by our Department of Health and our State Department of Environmental Conservation I think is very, very representative of the truth.

Where we do have our problems is the fact that in the CSO area it is going to take us somewhere from 10 to 11 years to mount a $1.5 billion to $2 billion program to deal with the combined sewer overflow problem. As I was going to say in my statement, in the 1970s we did build a prototype facility out in the Spring Creek area of Brooklyn which is at Jamaica Bay, and that was a demonstration project. We also, in that same vicinity, have just recently built a Dunker's flow balance method, which is also a combined sewer overflow facility.

Senator MOYNIHAN. That's this new Swedish——

Mr. SCHULTZ. The Swedish thing which is used on lakes which has been adapted for Jamaica Bay. We report to you that it seems to be working very well. It is not a panacea for the harbor in that it is designed for smaller outfalls, but it is working very well. We have gotten reports of reduced odor problems from those tributaries just around there.

Senator LAUTENBERG. Commissioner, can you give me just a layman's description of that new facility.

Mr. SCHULTZ. Basically what we have there is a combined sewer overflow outfall where, in times of heavy rainfall, sewage and rainwater are just pouring out. We basically have screens and bins, and as the water comes through it separates at levels, and what happens is that the floatables sort of settle out and we are able to pump those back for sewage treatment after the rainfall and take them away and transport them before they get out to the waterway. So we are reducing the amount of floatables that are coming out into the waterway.

Senator LAUTENBERG. Is that the nature of the $1.5 billion to $2 billion CSO program that you talked about? In other words, it is not to rebuild the sewers, but is to deal with the effect of combined sewer overflows?

Mr. SCHULTZ. Absolutely true. Over 90 percent of the city's sewer system is combined. It will be impossible to shift it to a separate sewer system. But this particular project is a minuscule effort compared to the larger efforts we are doing. The larger efforts call for the building of strategic location underground storage facilities which, during the peak storm—these little rainfalls or large rainfalls that come through—when you have the flush of the system and your water pollution control plant is overwhelmed and you have to normally bypass through regulators, what you would do is bypass to this tank, and in this tank you would settle out and chlorinate, and any overflow that would have to come over that would go into the waterway, but basically you would hold this material until the storm abated. And then, either by gravity or by pumps, you would bring it back to the water pollution control plant and treat it.

That is such a facility that exists in Spring Creek. We are planning one in Flushing Bay—we are negotiating the site right now. We're building one in Brooklyn where we are also in site discussions.

Senator LAUTENBERG. That seems to be the established technology.

Mr. SCHULTZ. It is established technology. We are having our fun demonstrating that to the public. One of these sites is in the middle of a middle class neighborhood, another is in a park. People are concerned about the future use of the park and understand that we're going to improve it, but we have to do it.

But, in addition to these tanks and these screens, we have to evaluate each outfall not only from their loading on the waterways in terms of pollutants, but what we can do to each outfall on an engineering basis: how can we treat this outfall? Can we disinfect it? Can we build a screen? Can we build a chamber?

But we have several studies going on. I can report to you that at the last Board of Estimate meeting the floatable study, which is a joint effort of us, New Jersey and Federal authorities, was approved. So we have a top-notch consultant working just on the floatable issues. But we have our Inner Harbor/Outer Harbor/East River Facility and Jamaica Bay Studies going.

So we understand two different problems, and I think it is important to understand that the Clean Water Act's primary focus was to improve water quality, and that was to lower the bacterial levels and increase the oxygen levels, in simplistic terms.

We are now more focused on floatables because that has been the problem that we have been faced with over the last two or three years. We believe it is going to take us in New York City ten years to be able to do that.

Senator MOYNIHAN. How are you going to finance it?

Mr. SCHULTZ. We are financing all of the city's clean water, floatable material, and wastewater programs through an authority. We sell bonds. Those bonds are supported by the Water Board setting up sewer and water rates which are solely dedicated to those bonds. At the moment, New York City's water and sewer rates are still fairly low representative to the rest of the country.

Over the next 10 or 15 years, although we will have increases every year in our water and sewer rates, we still believe we will stay within the representative range. And the big costs will come up in the year 2000 and thereafter in the long-term range when the issues of increasing the New York City water supply and perhaps filtering New York City's Delaware water supply would add billions of dollars to the debt if they are required. So we're studying those complex long-term financing issues now.

But three years ago this financing system didn't exist. That's a point well taken. Without this system we would be competing for capital and maintenance dollars out of the city's capital budget and maintenance and operation budget, and we wouldn't be able to have mounted this program in addition to the sludge program and in addition to the secondary treatment program that we are operating. So our ability to do this is based upon this dedicated source of revenue and we believe it is working well. Our bonds are very high rated in the AA category, and we're doing extraordinarily well.

Senator MOYNIHAN. Just to move along, because you are all very busy and we don't want to hold up this summer's project because you are testifying here, Commissioner Anderson, we welcome you.

Mr. ANDERSON. Thank you very much.

Senator MOYNIHAN. We'll put your statement in the record. Please tell us what you want us to know.

STATEMENT OF JOHN ANDERSON, DEPUTY COMMISSIONER, CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

Mr. ANDERSON. Why don't I just hit a couple of spots that you have mentioned already? One is the talking between states. Believe it or not, we have been doing that for several years regarding floatables and water quality. But I'd like to take it a step further.

It is really going to take a partnership between municipalities, States, and the Federal Government and the interstate. We are at last recognizing that water quality issues are a major environmental issue that affects every one of our states because pollution, as you know, does not know state boundaries or international boundaries. If that commitment can come from local, State, and Federal authorities to invest.

I would like to make a pitch for combined sewers. I think we all agree that that may be the number one water quality issue that we're talking about. The construction grant program that is being phased out by the Federal Government in my opinion was probably one of the most successful environmental programs that has ever been designed.

I think you can look at that again and maybe adjust for floatables and some other water issues, but I have a picture here of Norwalk Harbor, the sewage treatment plant, and a boat going through the channel next to it. You can see a line in back of the boat. What that is doing is actually cutting through the algae, and that's because the nutrients—nitrogen, specifically—is getting through the sewage treatment plant and into the sound and causing a great deal of problems.

That's a symptom at Norwalk, but it will also be a symptom in every other port or harbor in this——

Senator MOYNIHAN. That's not your plan? The plan is to get the oxygen back.

Mr. ANDERSON. That's correct. So it is another water issue that I think we have to look at down the pike. And I think it is interesting to try to compare the water issues. There are no quick fixes for these plants or problems to try to—it is not a sprinter's race. It is really the long-distance runner's race in which the commitment has to be made.

I would respectfully disagree with the commissioner on the 10 year figure. Really it is 20 years that we are going to have to——

Senator LAUTENBERG. But it is an incremental process. And when we see funds cut out of the disappearing construction grant program—we negotiated an end to it, unfortunately. We were dragged to that end. And now what has happened is that what is proposed for this year is half of what was authorized in the termination of the program. This is outrageous.

Well, I can tell you that among the three of us there is going to be a huge battle. We keep on getting resolutions. We get lots and lots of signatures from our colleagues from all over the country to state to the Administration—this one or the one before—that we want full funding for that. We have started again on it. It is a pleasure when you hear about the striped bass going up the Hudson River. Even though it is still a little contaminated, we know that there is hope there. Nature fights back, given half the chance, and we see signs of progress. So I couldn't agree with you more.

This is an incremental thing, but you can't wait forever. We can't permit this to continue because there is always the fear that it is going to gain on us, and we don't want that to happen.

Senator LIEBERMAN. Mr. Chairman, I'd be interested to ask this distinguished panel before us a question about financing for the CSOs.

As you consider the enormous expenditure that is going to be necessary to bring the sewage treatment facilities up to the standards we want, how would you do it if the Federal Government phases out this program?

Mr. ANDERSON. Well, the States are beginning—Connecticut has a clean water fund which this year has been funded $75 million in grants and another $25 million in the last two days of the legislature for a total of $100 million to address this in Bridgeport, New Haven, and Hartford. But we've been waiting—I'm not speaking for New York, but I think we have to help other States, because if those States who are not as fortunate to have those kinds of dollars to put into the system, those floatables and those nutrients are going to come to the states on either side.

Senator MOYNIHAN. If Mr. Evenson wants to join in, please do.

Mr. SCHULTZ. Given the debates we had last year in Congress, I'm almost loathe to say what I'm bound to say, but I feel it is the only responsible thing to do, so you'll forgive me in advance. We are making mistakes on priorities. You mandated programs for us last year unanimously. The blame is, in our view, on a technical basis, which is the entire Congress' view that sludge should be removed from the ocean and that removing it would gain benefits.

That is going to cost New York City $600 or $700 million in capital investment, and our latest figures are that it is going to raise our operating cost from $18 million to go to the 106 miles site to $50 million or $60 million a year on land, and that money, at least over the next 10 years, could be much better spent in accelerating a CSO program. And I think it could be much better spent in New Jersey, as well as in all of the towns and villages that have an ocean disposal problem under the new law. And those are hard choices we are making.

We would advocate that it is not only money, but it is the technical ability. The number of consultants, engineers, both within our agencies and available to us to help solve these problems, are being taxed by the mammoth undertaking that we are all embarked upon.

I think a stronger setting of priorities is very important.

Mr. **Lautenberg**. Isn't it true that this job is not going to get done unless the Federal Government gets involved financially?

Mr. **Schultz**. Absolutely. I think it is a question of timing, Senator. The State revolving funds that all three of our States are in the process of setting up or have set up will be of enormous assistance.

Senator **Moynihan**. We want to make sure that you get the money now and can have the use of it, but OMB is trying to pull it back from you. Is that your experience?

Mr. **Schultz**. Correct.

Senator **Moynihan**. You're testifying, sir. It's your turn. Is that your experience with the revolving funds?

Mr. **Schultz**. Correct.

Senator **Moynihan**. Where are you now on that?

Mr. **Anderson**. We are going through our priority list. It is in place. We have addressed, I believe, the top ten needs in the State, and that will be increased as the money from the bonds come in. But it is not going to be enough to handle the nitrogen and some of the other combined sewer overflow problems that we have experienced.

Mr. **Marsh** We have the same thing that New Jersey has: put its money where its sewage is.

Senator **Moynihan**. Shall we hear from Commissioner Evenson?

Mr. **Anderson**. Can I make one more point?

Senator **Moynihan**. Yes, sir.

Mr. **Anderson**. The point is that all environmental problems kind of intermesh or intertwine, and that resource recovery plans for both solid waste and medical waste, if they are not put into place, wind up either at the end of streets leading to water channels or in vacant lots or in the sound or in New York Harbor by themselves. So until we handle that waste properly we are going to continue to see it in the waters.

Mr. **Schultz**. I think that's an excellent point. I think that the major thing we should be doing is—in Connecticut you said it is litter. In New York City it may be people putting things into their toilet bowl and doing the dual function of wasting water, as well as flushing things that should be put into the waste basket. The amount of that material is what winds up out in the ocean, and if it is non-degradable it winds up on the beaches or the shore.

I remember the old sewer covers—big cast iron things with huge holes in them. They invite discarding debris in there. It's easy to throw trash down. I wonder if, in the newer design of these things, whether they're talking about making that a finer mesh of some kind so it can be then picked up with sweepers.

All of these are enormous tasks, but at least it would begin to catch trash before you have to catch it at the end with Dunkers-type solutions, or whatever.

Senator LAUTENBERG. And a lot more expensive. I wonder if that's part of the equation.

One other thing I have to respond to Commissioner Schultz, and that is: of the decision about sludge dumping, that's a tough decision. Are there a lot of New Jersey authorities that have the same problem as New York? However, these priorities are an array of the better environmental authorities, and wherever possible we ought to avoid spoiling the ocean, the land, the tributaries, the air, etc. It was a decision long overdue. If we hadn't gotten so tough there, that would have gone on forever.

I was out in those waters by boat and by helicopter to see what was the equivalent of a dead sea. You see mutated fish and this big brown spot in the middle. We want to get it out of there.

I'm not sure that 106 miles is the right choice, but if we regard it as an interim step we have to find another way to dispose of it.

Senator MOYNIHAN. Let's hear from our New Jersey representative, Commissioner Evenson.

STATEMENT OF ERIC EVENSON, DEPUTY DIRECTOR FOR WATER RESOURCES, NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Mr. EVENSON. Good morning, Senators. I am very happy to be here before you today and have this opportunity to give testimony.

My name is Eric Evenson. I'm the deputy director with the Division of Water Resources in New Jersey.

In the interest of saving time, I would like to highlight a——

Senator MOYNIHAN. We'll put your statement in the record.

Mr. EVENSON. I'd like to highlight a couple of programs that we have going on in New Jersey right now, and I'd be happy to answer any questions that you might have regarding New Jersey's State revolving loan program.

The first of the measures I'd like to discuss with you is Operation Clean Shores. It is a shoreline clean-up effort along the northernmost urbanized and populated part of the State. This effort is a joint project between the States of New York and New Jersey. It has been labelled "Operation Clean Shores," and it focuses on removing floatable debris from our northern shoreline and portions of New York.

Several months ago Governor Kane and Mayor Koch announced this new program. They noted that, once removed, this material will not refloat during high tides or heavy rains moving south towards tourism beaches. By using Department of Corrections inmates and work crews, we are confident we can make a real difference this summer, and we feel we have made a real difference this summer.

New Jersey is spending $2 million for this intensive effort to clean the shorelines in Raritan and Newark Bays and several other areas. Communities are cooperating as part of this effort, and a total of 16½ miles of shoreline along this urbanized portion has already been cleared of 2,500 tons of floatable debris. Of this five million pounds, only 5 pounds of it was medical waste collected.

Senator **Moynihan**. Two shopping bags.

Mr. **Evenson**. Two shopping bags.

Senator **Moynihan**. That's important.

Mr. **Evenson**. Yes, it is very important.

Senator **Lautenberg**. Very frightening also.

Mr. **Evenson**. Yes.

A second effort that I'll touch upon is the New York Bite Floatables Debris Action Plan. This is an innovative effort under the New York Bite Restoration Project. This action ties together of the New Jersey DEP, the State of New York DEC, the New York City Department of Sanitation, the United States Environmental Protection Agency, Corps of Engineers, and the Coast Guard.

The primary objectives of the action plan are to establish a surveillance program for the New York Harbor complex, the south shore of Long Island, and the New Jersey shore for floatable debris slicks and to establish a program for cleaning up floatable debris in these areas once it is detected.

Under the first objective of the plan, surveillance will be conducted between May 15 and September 15 of each year in the area of the harbor complex and the two shorelines. Helicopter overflights will be made daily and will concentrate in looking for floatable slicks and in checking for other water quality conditions related to ocean bathing.

There is a network of communications between the participating agencies that has been developed to respond quickly to materials sighted in the water and to give affected communities advanced warnings.

The second aspect of the program deals with the cleanup of floatable debris slicks. This involves the use of Army Corps of Engineers' vessels and vessels which have been contracted for by the New Jersey Department of Environmental Protection. I'd highlight here that this is one of the reasons why we feel, at the Department of Environmental Protection that S. 506 is so important. We feel that it strengthens and reinforces the efforts of the Federal agencies in this overall effort.

We feel that cleaning this material which accumulates along the shoreline and is then refloated back by high tides and summer storm events is very important. It will be cleaned out of the water before it enters the open ocean, where it can have potential effects on our recreational beaches.

We feel and believe that this action plan represents one of the most comprehensive control strategies for floatables in the United States.

In the interest of time, I would just also mention that New Jersey has established under State law a medical waste tracking system, and under legislation and regulations we have many other aggressive programs underway. We have an antilitter campaign which we feel has shown benefits in the last few summers.

I would like to just make a brief statement regarding one aspect of the request in your letter, which was in regards to further actions that might be needed at a national level.

We feel that national legislation, in addition to that that's already in place and proposed, should focus on public education health efforts to highlight and to make the public aware that if they throw trash into our streets, into our streams, in through a storm sewer catch basin, it is going to end up in the ocean and it is going to end up in our bays and it is going to impact our bathing beaches.

We feel that the majority of the public, once they know the ramifications of their actions, will stop them.

Senator MOYNIHAN. That's not something you are just born knowing. You have to be told.

Mr. EVENSON. Correct.

Senator MOYNIHAN. What goes down there comes around.

Senator LIEBERMAN. Absolutely right, Mr. Chairman. It seems to me that the more we get into our environmental problems the more we see that it is the rare instance, such as the Exxon Valdez in Prince William Sound, where you have a dramatic visible event.

Most of our problems environmentally are the result of what might be called insidious but certainly publicly invisible actions by all of us that was the problem. It is certainly true that what we're talking about here is the failure to manage the waste stream that starts with a lot of individual decisions to just throw something in the water, for instance, on the theory that it disappears. But it doesn't, as we have found last summer. It comes up on the beach.

I think that the focus on education is very important.

Mr. EVENSON. We feel the second place where national legislation can have a real benefit is in limiting the production of non-biodegradable substances and promoting the production of biodegradable substitutes nation-wide. This is something certainly that States can work on, as well, but unless it happens at the national level it will not have the impact and the desired results.

We want to limit as much as possible the production of non-biodegradable substances nationwide, and we feel that this is an effort where the Congress could also be very instrumental.

Senator LAUTENBERG. Is there any concern, Mr. Evenson, that as we develop biodegradable materials we might lull people into a sense of complacency about the fact that this is biodegradable so they can chuck it? That's what is likely to happen.

Senator LIEBERMAN. There are people out there in the audience agreeing with you.

Senator LAUTENBERG. That's a first since I've been in the Senate.

Mr. ANDERSON. Certainly it has to go along with the education effort that material has to be disposed of correctly.

Senator MOYNIHAN. Mr. Evenson, thank you very much.

Senator MOYNIHAN. Conscious of the amount of municipal power we are keeping here, I think we'll return to Commissioner Sexton and conclude our panel.

STATEMENT OF HON. BRENDAN SEXTON, COMMISSIONER, NEW YORK CITY DEPARTMENT OF SANITATION

Mr. SEXTON. Thank you very much.

I'll submit my testimony.

Senator MOYNIHAN. Thank you.

Mr. **Sexton**. I will try to concentrate on a couple of highlights or points that have come up in prior comments already.

First, one of the later points, but I think one that deserves great emphasis, is the need to foster greater disposal of medical waste.

We are talking about huge problems here—CSO's, solid waste units, and so on. But the damage to our beach season last year was done by the tiniest fraction of either. A very tiny fraction of what comes out of the CSO is medical waste, and a very tiny fraction of the solid waste is from the medical waste. And yet the ability to dispose of that stuff cheaply is simply almost non-existent. Except for those few hospitals in New York City that have on-site incineration of red bag waste there is no legal disposal of medical waste in New York City. It has to be carted out of town at terrific expense by operators of dubious properties. The single largest medical waste hauler that I am familiar with in New York was arrested.

Senator **Moynihan**. Why was he arrested?

Mr. **Sexton**. The property was an illegal landfill at which was deposited, among other things, medical waste.

Senator **Moynihan**. He was directly connected to this activity?

Mr. **Sexton**. Yes, sir. This is a tiny fraction of the waste we're talking about. To incinerate all of it would contribute essentially no load to the air quality of New York City or the region. It is not a lot, but it is an impact of stupendous import—especially as regards to the public mind.

The panic you spoke of earlier, Senator Moynihan, is quite correct. Much of what was picked up off the beaches in the last couple of years and run to the State troopers or park rangers with had nothing to do with medicine, but just anything that arrived that was unidentifiable on the waves, terrified people, and closed the beaches. And they were closed while people discovered whether or not it was medical, or everybody left the beach for a month at a time in the fear that it might be medical.

We have had a couple of indictments of people who have handled the waste illegally, including the New Jersey resident who was mentioned before who was described appropriately, although he ran a blood lab in Brooklyn, New York. We both deserve credit for that particular character. He was a fellow whose blood vials were found on the beach by school children playing on a beach on Staten Island not far from my home. It is a case of an obvious impact for us.

These particular actors are tempted into the illegal disposal mechanism because legal disposal is so difficult, so expensive, and, frankly, I think just not part of the culture of some of the operators we are dealing with and we have to make it so. One of the things we have to do is make it much easier to dispose of some of this waste. It probably means burning it, and it probably means burning it in a densely populated area like New York City, but it is really a small, small amount of waste, and it ought to be handled as little as possible, transported as short a distance as possible.

Senator **Moynihan**. That makes perfect sense. What is the problem?

Mr. **Sexton**. Well, I think that there are several problems. One is the fact that there is a public mind-set against incineration which is very, very strong, and I think we have to convince people.

Senator **Moynihan**. There used to be a Federal smelter about 400 yards from here about three years ago.

Mr. **Sexton**. Yes. And the second is that there is no governmental fostering of any kind of incineration, including this kind. And I think New York City and New York State—and probably New Jersey is doing the same—are turning on to the view that the governmental agencies ought not just to permit if applied, but ought to find ways to encourage the medical industry or whoever needs to do it—the city has to want to do it, itself, actually—to set up legal disposal mechanisms for this waste.

Senator **Moynihan**. If we can find a central incinerator with no real affect on air quality, the medical profession could get rid of this problem like this—snap.

Senator **Lieberman**. And the red bags, right? You have them. The question is: where?

Senator **Moynihan**. An incinerator.

Mr. **Sexton**. There are landfills that will take this, but a hazardous waste landfill can take—it is just that it is probably an impractical solution for us. But a legal disposal mechanism, or several regional, countywide, or whatever they are—any large municipality in the region to have one or a few regional, legal, medical disposal facilities. I think it is not a hugely expensive project, and——

Senator **Moynihan**. And these are the syringes and vials we're talking about?

Mr. **Sexton**. Syringes, gauze, all of that sort of thing. Pathological waste is actually a tiny fraction, and many, many hospitals have small pathological waste incinerators to get rid of things like body parts.

Senator **Lieberman**. Mr. Chairman, I share your sense of puzzlement, and I'll say this—I'm just generalizing from our limited experience in Connecticut. We have at least one incinerator for medical waste, and it is an extraordinary business opportunity. I'm wondering why somebody doesn't come in and see it that way in the city.

Mr. **Anderson**. I would invite you up to see that. It is in Middletown, Connecticut. It handles about 60 percent of the waste of Connecticut. It is very successful, and the guy is making a lot of money.

Senator **Moynihan**. In pretty Middletown, right?

Mr. **Anderson**. Right there near Wesley. It has dry scrubbers on the facility. There is nothing getting into the air there. There have not been any complaints.

Senator **Lieberman**. Incidentally, this gentleman who operates it called me last summer and told me that after the publicity attendant to the medical waste on the shore his business boomed, which is to say that there was obviously a lot of medical waste that was not properly disposed of before that, but people got frightened, as well they should.

Mr. **Anderson**. He's running seven days a week, three shifts a day now.

Senator **Moynihan**. I don't want to let this go by. Commissioner Anderson, if you would give us that name and such, our joint committee staff will look into this. Surely this is an important proposition. If we could handle the New York City metropolitan region, we would automatically reduce the beach problem, wouldn't we?

Mr. SEXTON. Remember, we're talking about that fraction of the problem which is medical, and that fraction of it which is illegally disposed of, and those are probably small fractions of the total problem, but they have been so alarmingly destructive elements of the problem that I think to deal with them will be——

Senator MOYNIHAN. Our staff will learn more about it.

Senator LIEBERMAN. You're saying also that because of the cost and inconvenience of disposal that people take the illegal method. We're not talking about the junkie out there that throws something away because you're not going to control that.

Mr. SEXTON. To give you specific examples, the fellow who was arrested a few weeks ago in the Eastern District case who actually dumped the blood vials in water—and, by the way, the indictment account—the blood vials we found in the beaches last year in New York amounted to a couple of hundred. The indictment charges this fellow with 51 of them. So this is a significant amount of the waste that was in the water that was from this one case that we could trace to him. Many of the others may have been his. That fellow was avoiding charges of as much as thousands of dollars per truck load by dumping it himself out of the back of his car or station wagon or whatever on his way home.

So these are, at several hundred dollars a ton, significant expenses for an outfit like a blood lab. Much of their waste is red bag, all of it at the rate of several hundred dollars a ton.

It is not a trivial fraction of his enterprise, but may be a small fraction of the total waste, but for him it is a very significant temptation to dispose of it.

Senator LIEBERMAN. Lest it be misunderstood, I really believe that we can find better solutions than trucking it all over the place. There is enormous concern about incineration of anything.

Mr. SEXTON. Yes.

Senator LIEBERMAN. And I'm pleased to hear that in a place like Connecticut——

Mr. SEXTON. I should tell you that in Long Island there is a medical waste incinerator on Long Island which serves several New York City firms, and there is a permitted facility in upstate New York which many of the firms use, but some of it is being trucked as far as South Carolina.

By the way, much of New Jersey's waste I think goes to these same destinations.

Senator MOYNIHAN. Gentlemen, would you excuse me? I have to go to a hearing. The Attorney General is testifying on the other aspect of this problem at the National Trade Court, so I'm going to turn the hearing over to Chairman Lautenberg.

Thank you for your great testimony.

Mr. SEXTON. Could I also just touch on some of the other material that we are most responsible for?

I do want to make it clear on the record that the States of New Jersey and New York, who are our regulator and in the form of our litigator and have been key fans of our solid waste operation in New York for the last few years. They have helped us make terrific improvements in waste management in New York. It should be noted for the record that there is no open barge of New York garbage in New York's harbor any more—at least by the Department of Sanitation.

It should also be noted there are private barges of garbage and private handles of garbage in this region. But all of our barges have been covered since February. There are booms around ours. There are landmarks noted. There is a triple boom system with booms going 15 feet deep at the Freshkills Landfill.

We are now supervised by just about everybody in the world—the State of New Jersey, the Interstate Sanitation Commission, the State of New York, the plaintiffs in the Woodwards lawsuit all send monitors, including the independent monitor we fund out of our budget. We think that our operation has contributed in the past years to some of the litter that was found in the water, but we think in the last two years that tremendous strides have been taken, especially in the last year or two.

We honestly believe that nobody now looking at problems of beach litter or whatever thinks that our operation is a significant contributor to the problems on beaches in New York.

Senator LAUTENBERG. There is a little presumption there. Forgive me.

Mr. SEXTON. We believe that.

Mr. ANDERSON. You said most people or a lot——

Mr. SEXTON. Let me be more clear. The agencies who are most concerned with this problem for the last couple of years, when they discovered incidents now often have come to us to ask for help because of our environmental police unit or for the work we have done in the last few years. They don't come to us pointing fingers. I think in the last year or two especially—for instance, so far this beach season it has not been the agencies who deal with us, whether it is the Parks Department of environmental regulators in the neighboring States, it has not been their conclusion that we have been part of the problem.

Senator LAUTENBERG. Commissioner Sexton, I commend you and New York City for getting closer to dealing with the problem. I don't want to go back too far, but there is something called the Shore Protection Act which was signed into law that I wrote that said "If you don't, we'll apply the lash."

Mr. SEXTON. Your act actually helped us, because it helped us with our own Bureau of the Budget.

Senator LAUTENBERG. Right. And that's when we started to say, "Train those crews. Don't overfill those barges. Try to cover them over and recover the stuff that dumps over."

As you know—and I'm sure Mr. Evenson knows—we are concerned with leaching from that. We're not discussing that today. I think it is something like one million gallons a day.

Mr. SEXTON. The leaching from Freshkills neither goes into drinking water nor is it of real significance. There is not much in it. It looks a lot like the rain water.

Mr. EVENSON. Let me just say about the bill that got us here today and getting the Corps of Engineers directly involved, I think that's just terrific. We have developed five skimmer boats to capture floatables around our operation, and we're very proud of them, but they don't really work on open water.

A couple of years ago when the first inter-agency work started on this, about a half a dozen times either New York's or New Jersey's Environmental Department sighted a slick in the works from their helicopters and asked us to send a boat, and we tried each time to get a boat out there, but they are too slow and they're not made for open water and they can't handle it.

The Corps' dedication this year with its driftmaster boats to litter patrol at least some of the days of the year—the high tide days, the days after rainfall—we believe will make a terrific difference.

Senator LAUTENBERG. That's why we are committed to that.

Mr. EVENSON. Frankly, one of the problems they said to us as Federal Government bureaucrats was that we could do more of this, but the law underlying our mission or setting up our mission does not state "Go out and clean up the water in this manner." I think, therefore, that the people we have been dealing with would probably be very glad to see a bill which helped——

Senator LAUTENBERG. They want to help.

Mr. EVENSON. Yes.

Senator LAUTENBERG. I'm also on the Environment Committee and chairman of the subcommittee there. I'm also on the Appropriations Committee where the Corps and others come for their money. So we get their attention sometimes. They have been more cooperative lately, and they will be once this law is passed—and we think it will pass.

In regard to your comment about the booms not working in all places, I was in Valdez, Alaska, within three or four days after the accident took place, and they had booms there that would handle wave activity up to a foot and a half. Waves on a stormy day could be five feet. It demonstrates exactly what you're talking about.

Once this material is out in the water and the debris is out there and you get the wave action and tidal action it is pretty hard to contend with. You have to catch it before that. In the harbor is a good place to pick it up.

Do we need to continue this surveillance, tightening of law? Do you think that we've now got enough attention and focus on it that we're going to be able to keep this contained or keep it off the shores? Mr. Evenson's testimony said the biggest problem is from the Hudson River on out through the bay. That's a pretty narrow stream there. Are we in pretty good position now?

Mr. SEXTON. The Arctic Kill is filthy, and it is going to take quite a bit to clean it up. It is filthy. I don't deny that New York City has made some contribution to that over the years, but if you go up the Elizabeth River and so on it is remarkable what is loaded into those waterways.

The recent shoreline cleanups proudly are the single greatest innovation, as simple as it is, just having folks walk along the shore and pick stuff up on both sides. New York and New Jersey both need to do a lot more. All that stuff is not going to go into heaven; it is going to go out into our open water and come back to us. It just doesn't go away.

I think the question of biodegradability is a big question, but for the waters it is a fairly simple one because cardboard sinks and rots and plastic doesn't. It is not complicated.

Senator **Lautenberg**. I wrote the Plastics Prevention, but that says if you get caught you go to jail. Enough of the killing of our environment.

Mr. **Sexton**. So I would like to say that I think for the next couple of years we probably have a very serious requirement of just simple old-fashioned litter pick-up on this beach leading to the waters, on the beaches, themselves, and in the water along the shoreline. There is an immense amount of material out there.

Senator **Lautenberg**. Mr. Evenson, do you agree with Commissioner Sexton about the——

Mr. **Evenson**. Totally.

Senator **Lautenberg** [continuing]. Progress?

Mr. **Evenson**. Well, I completely agree with him about the issue of the shoreline cleanup and the need for that. In regards to Freshkills Landfill, certainly improvements have been made—dramatic improvements—within the last 2 years. As I'm sure you know, our commissioner and the attorney general still feel that there are some further actions that need to be taken, but certainly there have been great strides made.

I would like to second Commissioner Sexton's comments about the magnitude of the shoreline cleanup problem and effort. We are paying now for the accumulation of decades of inappropriate disposal which is accumulated along our estuaries and along the waterfronts there, and it is going to be a very, very large effort to clean it up.

The efforts that we have made so far this spring have made a difference, but there is 45 miles of shoreline just on the New Jersey side of the Hudson River, including the Newark Bay, only about 35 of which is "cleanable." We have been able to clean 16½ miles so far. There is much more to be done.

Mr. **Schultz**. I just want to add two things to the discussion, one on the general issue of CSO and on this discussion on what winds up in the waterway.

I think it is very important that we have a regional inventory of all of our CSOs and all the contributors. We believe that New York City is doing its inventory for its 430 outfalls, and we welcome New Jersey's efforts which have begun, and we would hope Connecticut and Westchester, along with Long Island, would also contribute to the inventory because then it will be the comprehensive program. Elizabeth River has outfalls. I could mention a few New York State rivers, as well, that are contributors. Before we are done we should understand the total loading problem we have.

The second thing—not to take advantage of Brendan Sexton's sense of humor, but I thought I was in heaven listening to the incinerator discussion. I think that I would like to say, not only for my agency, but I think for Brendan, as well, that for solid waste, medical waste, and sludge alternatives in the future, that really serious consideration be given in the Clean Air Act, either H.R. 99, H.R. 2223, or whatever the President comes forward with in specific clean air legislation, that really serious consideration be given to the incineration needs of the northeast region in order to deal with the solid waste problem.

Senator **Lautenberg**. It is happening. Unfortunately, there are many of us concerned about what it is that we're putting out of those stacks and that we don't have a full measure of the potential harm from them. But dealing with the problem is something that everybody now is aware of.

Here we have the President, who made a strong claim on environmental interests, coming up with support for environmental improvements, the Clean Air Act. I'm concerned about what happens when corporations are left to clean up their own act. We have seen some of the corporations of America turning in to very good citizens, but we're still wrestling with a segment of that society—and I come from the corporate world—fighting and resisting, whether it is the automobile manufacturers unwilling to reach the CAFE standard that was set which would help reduce pollution, finding alternative fuels, etc.

The fact is that we are beginning to deal with the problem in a serious way.

The budget problems—I serve on the Budget Committee, as well—are serious. When you said before that priorities may have been misplaced, we disagree perhaps on the termination of sludge dumping. But the fact is that there is a misplacement of priority, and we have to continue to fight—all of us, and the Senators from the coastal areas—to get the people across this country to understand that everyone, whether you live 10 miles from the coastline or 500 miles from the coastline, has a stake in what takes place. People realize it now for the first time. Look at the consciousness devoted to the global warming problem and the ozone problem and the water quality problem. We are now finally in the same boat, maybe.

I'm pleased to have all of you here. Unless there is something else——

Mr. SEXTON. On this issue of the consciousness, just as people don't realize when they flush their toilet that it might wind up in the oceans and back on the beach, or when you throw litter in the street that it might wind up in the sewer, it is also true that people away from the coastline have no idea the contribution they make.

The Hudson River goes very far up New York State, way far away from the beaches, and those folks have no idea that the litter they throw into the trash north of Albany, the litter they throw into the water or the CSO up there has no way to go but to New York Bite. So we have a very, very large responsibility which I think Commissioner Schultz was starting to——

Senator LAUTENBERG. Looking to leadership from the government. That's where it has to happen. You can't simply say we're going to educate everybody. Government has to show people the way with these things because it is a lack of understanding.

I don't know how many of you caught the piece written about dumping in the ocean two or three days ago in the "Times." This individual said, "Dump it deep, because that's where it belongs; otherwise, whatever you put on land winds up along the edges." Well, at least it had me scratching my head. I turned it over to my staff and said "Find out who he is." We're all willing to learn. I'm not endorsing using the ocean as a garbage can by a long shot, but what we have to do is continue to search for alternatives.

I was in Stockholm, Sweden. The river that passes through town is swimmable, fishable. I didn't swim in it or fish in it because it was January.

Senator Lieberman, any questions? Otherwise, we'll discharge this panel.

Senator LIEBERMAN. Yes, sir. I have one question for my own commissioner and friend, Mr. Anderson.

John, if you would do just a minute, because it is very important for us to know, on the sewage slick that we believe came up from the East River last year which contributed to our problem. And, secondly, the importance of the water circulation studies model.

Mr. ANDERSON. Well, the slick, again, is tied to the combined sewers that last year was from the problems of the drought season that we went through and the severe thunderstorms at the end of July I think made the problem even more prevalent. What happened is that everything was flushed from both the storm sewers and from the sewage treatment plants—the grease balls, etc. And so the sanitary waste, the grease balls, the plastics that were floating all formed a mat, almost, that was about a mile long that settled off Stanford. That was there for almost a month. We were trying to devise ways of picking it up, skimming it up. It had never been done before. But, again, because it was new we were going to have to try something innovative to do it.

It did break up finally, but we have found a couple of slips already this year from the severe rain that we have had.

So that's a water quality issue. Again, it is a floatable, but it has to do with the combined sewers and the CSOs.

Senator LIEBERMAN. And the water circulation component of the Long Island Sound study relates directly to that, I guess?

Mr. ANDERSON. Yes. There is no question. I think the Long Island Sound—again, it is New York and Connecticut and some Federal agencies that are dealing with that. The study will be completed in another two years. But the low-dissolved oxygen, along with the CSO I think are going to be the two main culprits, but there will be other things that are going to come out of that, also.

Senator LIEBERMAN. I wanted to ask you that question because someone asked whether we can build on the level of understanding that now exists between our friends from Jersey and the Corps. Is that a situation with that slick where the Corps could have been helpful to us in breaking that up or deflecting it from heading towards Connecticut, or is that beyond that?

Mr. ANDERSON. These are questions that are worth asking not only of the Corps, but of the Coast Guard. The Coast Guard has been cut back tremendously, but what they do they do very well. If they could be counted on——

Senator LIEBERMAN. Don't say that, Mr. Anderson. I'm chairman of Transportation, and the Coast Guard is in that subcommittee. The Coast Guard's funding keeps increasing. The responsibility we give them also keeps on increasing, so it is very tough catch up. We are funding all kinds of things, including drug interception. Five hundred million dollars more this year is proposed. We are trying.

I don't know if this is a Coast Guard problem or a Corps problem—maybe an EPA problem. The fact is that we've got these problems and we have to continue to work on them. The evidence is clear when you see the slick. I did my Long Island South patrol this week and I took a boat from New York all the way up to Massachusetts, and I saw a lot less—I travel that way a lot, and I saw a lot less this year than I have in the past years. I don't know whether that was coincidence or——

Mr. **Anderson**. It is still early in the year.

Senator **Lieberman**. I guess. I have got to figure out how they can make lobster traps of severable material so that you don't get it caught in your propeller.

Senator **Lautenberg**. Senator Lieberman, I'm sorry, but I think we'd better move on to the next panel.

Thank you very much everybody.

We invite Mr. Muszynski and Colonel Boston to the table please.

We are pleased to see both of you here. Mr. Muszynski and I sort of know one another a bit—telephone calls, etc.—from sharing problems. And Colonel Boston, we welcome you to New York. We invite you to give your testimony.

I'd like to just change the rules a little bit and give you five minutes each to present your testimony. Your full statement will be in the record, but we'd ask that you summarize it to the extent that you can and tell us what you think is most important.

Mr. Muszynski, would you go first please?

STATEMENT OF WILLIAM MUSZYNSKI, ACTING REGIONAL ADMINISTRATOR, REGION II, U.S. ENVIRONMENTAL PROTECTION AGENCY

Mr. **Muszynski**. Thank you, Senator.

I am pleased to be here and thank the Committee for this opportunity to discuss our region's perspective on the problem of floating debris—plastic, wood, paper, medical waste, etc.

Obviously this is, unfortunately, not a new problem. It has been around for a long time, but I think it has been heightened over the past two years, especially with the episode that we had two years ago on the New Jersey beach line, and in particular, the medical waste wash-ups as time went on.

Let me first summarize what we have done to try to find out the source and some of the extent of the problem. We conducted helicopter and drift studies in the fall of 1987. We had our EPA survey vessel, the Peter W. Anderson, conduct surveys in the summer of 1988. We conducted a New York Harbor survey of floatables in November of 1988. And we have also participated in the national survey of nine harbors.

Our analysis indicates that there are multiple sources of this debris: combined sewer overflows, storm water runoff, street litter, beach litter, pleasure boating litter, inadequate solid waste handling, wood from decaying piers and derelict vessels, up-river contributing river sources, and re-suspension of materials already on the shorelines.

As a result of these analyses, we have developed and implemented, with the Corps (NY & NJ), the city of New York, the two states and the Coast Guard, a floatables action plan. I'll just briefly summarize that.

We found that the slicks are formed in somewhat predictable ways, and they also appear in predictable places—during full moon tides, and especially after heavy rains and winds. So, with the agencies, we put together this program that provides for regular clean-ups, in a sense anticipating where the slicks will appear after these events. We have stationed the vessels to be there and try to optimize their operation so that they could pick up these slicks and prevent them from leaving the harbor area.

We conduct routine surveillance, a combination of all of our patrol vessels, both air and water, with the Coast Guard and the States—our helicopters.

We participate in non-routine cleanups where, other than these full moon events, if we find or have reported to us a major slick we would ask the Corps' vessels to go out there and take that slick on, and we have done that.

Communication—it was very important. I think one lesson we always learn is that no matter how much we think we're communicating, we never seem to be communicating enough. And so we have put together a full-scope communication plan between all the agencies, even to the point—sometimes as simple as it sounds—of having the ability of the helicopters to talk to different vessels, which we found was a problem in the past.

We commend New Jersey for the Operation Clean Shore Program that they have been working on to attack the material on the shoreline, the same as New York City.

We participated with the states in developing beach reports, beach cleanup plans, and cleanup guidelines, and we have also funded or participated in the funding of coastal weeks.

These efforts, I think, have been, at least in this initial run, fairly successful. But, again, these are aimed at mitigating a problem in the waters which we don't feel is, in the long run, the real way of attacking the problem. We must get into a mode of preventing the material from getting into the water in the first place. We feel that's the most effective way to deal with it.

In the area of CSOs, there are some 600 CSOs that feed into this harbor complex, as well as Long Island Sound. There are some 5,000 storm water discharges into this area into the ocean waters. We feel that localized development of low-cost structural methods to contain these waters is necessary. We also feel the necessity for and will be moving on an educational program—again, an interim type of thing—to discuss with people what should and should not be flushed down their toilet so that the material in CSO events do not find their ways into water. And we think that it is necessary, and we are working to start maximizing storage capacity because these systems, as their capacity is used up—or, in some cases, overused—become less able to handle the storm water events and therefore you have more overflows.

In the area of medical waste tracking, the regulations for the Medical Waste Tracking Act that Congress passed and the President signed in November of last year come into effect on June 22. These regulations will provide a definition of covered waste, manifest, cradle-to-grave tracking forms, packaging and labelling requirements, and transportation requirements.

To aid in the implementation, we have initiated in this region seven seminars that we have held to bring people in to discuss with them the differences in the two laws between New York and New Jersey and the EPA law. We have worked with New Jersey and New York last year in the summer when they put their emergency regulations into effect to ensure that there was consistency as much as possible between them.

We have also recently conducted biomedical training for EPA and state inspectors that are not used to handling and inspecting this type of material.

We have worked to set up enforcement programs with our states so that we can be supportive to each other and not duplicative.

It is our intention to be fully operational with this program on June 22 so that we are actually out in the field.

Another area that was asked to be addressed was wood burning. Currently only the Corps of Engineers is authorized to burn wood. We have, over the years, tightened up and made more stringent the conditions under which this burning takes place. In particular, they are no longer allowed to burn between May 25 and September 1. They have eight-foot extensions and chain link fence on the vessels so that wood material cannot fall off either in transit or during the burning process. There are trailing vessels, independent ship riders. We do surveillance, and we also worked with the State of New Jersey to deputize their people to inspect these operations. And the ash is to be returned to shore for disposal.

So we don't believe that their operations in the wood burning are contributing to the source of the material that is floatable material that is present.

Finally, we are involved in several studies that I think, in the long and short range, will contribute to our understanding and solution to these problems. We have the New York Bite restoration plan underway. We are looking at the near coastal waters and the estuary. We have the New York/New Jersey harbor plan underway, the Long Island Sound study, and recently we have initiated the Delaware Bay study, also.

I think it is obvious that the pressure of development, the load put on over the years, is contributing to this problem. That is one particular area that is also going to have to be addressed in the long run.

Senator LAUTENBERG. Thank you very much, Mr. Muszynski. I hate to cut you off, but we are running very late. I appreciate your comments. We will have a chance to review your testimony in full. Thank you.

Colonel Boston, please give us your testimony. Thank you very much.

STATEMENT OF LT. COL. RICHARD C. BOSTON, ACTING DISTRICT ENGINEER, NEW YORK DISTRICT, U.S. ARMY CORPS OF ENGINEERS

Colonel Boston. Good morning, Mr. Chairman and Senator Lieberman.

I am Lieutenant Colonel Boston, the Acting New York District Engineer. I am pleased to be here this morning on behalf of the Secretary of the Army to discuss floatables pollution.

I will try to summarize as quickly as possible.

As you know, the Rivers and Harbors Appropriation Act of 1915 authorized the Corps to collect floating debris which constitutes a hazard to navigation and the greatest economic impact is damage caused to vessels.

Each year under this act we collect approximately one half million cubic feet of timber and wood.

Senator LIEBERMAN. The original motivation for the act was to protect vessels from damage?

Colonel Boston. That's correct.

Senator LIEBERMAN. That's an interesting historical note. Times have changed.

Colonel Boston: That wood and timber is removed annually from the navigation channels and the harbors, and this includes sunken timber vessels that were of specific obstruction to navigation.

In 1974, Congress amended the Rivers and Harbors Appropriation Act of 1915 to authorize the Corps to attack the drift problem at its source. We did this because the amount of material was increasing, and it became more effective to remove the timber at the shoreline before it fell into the waterway and overwhelmed the collection vessels.

This removal at the source is cost-shared with the states at a rate of two thirds Federal to one third state. We remove approximately four million cubic feet of timber in this manner. This material, along with the material from the other collection means, is disposed of by incineration at sea.

Mr. Muszynski summarized our efforts to prevent floatables from developing from our incineration at sea, so I will not elaborate on that subject. But we do have stringent measures, and we have not lost any material since these stringent measures went into effect.

The next point I will discuss this morning is the extent of the Corps' participation in the Inter-agency Floatables Task Force's efforts for the summer, as I will explain in detail. The Task Force was established to develop a strategy to reduce the probability of recreational beach closing due to floatables.

The Corps' participation in this effort is based on the recognition that a contribution to this role can be realized as an adjunct to the Corps' normal debris collection activity. The States of New York and New Jersey provided us with new nets that have mesh of approximately two square inches rather than the half-foot square mesh we normally use. This enables collection of small-sized items.

Using these nets, and as a normal part of our debris collection activities, the Corps pursues an intensive collection effort during the spring and full-moon high tides to attempt to minimize floatable debris in New York Harbor. We position our boats at areas where we anticipate high levels of floating debris.

Because the non-wood debris collected cannot be incinerated at sea, the City of New York Department of Sanitation is providing refuse barges near our work sites where the nets can be emptied of all debris, including that normally disposed of by the Corps. This maximizes the time vessels can be collecting and relieves the Corps of its disposal problems. This cooperative effort thus benefits all parties involved and is consistent with our authority to collect if it is a hazard to navigation. It is being and will continue to be at no expense to the Corps.

The Task Force response has been in operation 12 days in the last 5 weeks. During that period, we experienced two spring tide events and we responded to several rainfall and debris events. We collected approximately 260 tons of materials in the 12 days. Approximately 90 percent of the collected material was wood or timber.

The Corps participation in the program will be reevaluated at the end of the recreation season.

You asked that we discuss the control of floatables solutions. We believe the floatable trash problem is the direct result of people—whether intentionally or unintentionally—discarding trash anywhere in the shore region, along the highways, or even from boats. Eventually the debris finds its way into the harbor. Controlling these sources of floatables is dependent on the enforcement and strengthening of existing laws, the support and education of the public, and the continuation of programs like the shoreline cleanup campaign.

The control of other sources of floatables, such as combined sewer outfall, is better addressed by other Federal, state, and local agencies represented here today.

In regards to S. 506, I would like to make a final point on that. S. 506 of the 101st Congress is the bill to authorize the Corps of Engineers to collect and remove all floating material whenever it is collecting or removing from New York Harbor debris which is an obstruction to navigation. S. 506 requires the Army Corps of Engineers to clean up garbage floating in New York Harbor as an adjunct to its program for the removal of floating driftwood that may affect navigation.

The Department of the Army recently objected to a similar bill, H.R. 906, because the garbage pollution problem falls under the jurisdiction of the U.S. Environmental Protection Agency. In light of recent efforts by the U.S. EPA to address this problem through the inter-governmental task force and the New York Bight' floatable action plan, the Department of the Army does not support any legislation expanding the Corps of Engineers' existing navigation mission for the New York Harbor Drift Removal Project to include garbage cleanup: However, we are an active member of the intergovernmental task force and stand ready to provide assistance in implementing that plan.

Mr. Chairman, that concludes my statement. I would be pleased to answer any questions.

Senator Lautenberg. Thank you very much.

Colonel Boston, it sounds like you're from Boston?

Colonel Boston. Yes, sir.

Senator Lautenberg. We welcome you to New York. I don't blame you for wanting to get away from that harbor in Boston.

All of our harbors have problems, unfortunately. We are pleased to have you here. Even though you have an early and tentative disagreement with S. 506, we hope that we will be able to persuade people at the top that it is a really good mission and that we need your help. Frankly, I have found the Corps to be always helpful in lots of ways. I really do appreciate and respect that.

Do you have any idea why the Assistant Secretary of the Army refused last year to allow the Corps to play a similar role to that which we want to assign?

Colonel Boston. Yes, sir. I believe last year the problem was the disposal of the collected material. This year the New York City Department of Sanitation has provided us barges to dispose of the material. Last year we did not have that capability.

Senator LAUTENBERG. And you do have the nets out there now?

Colonel Boston. Yes, sir.

Senator LAUTENBERG. Were they provided by New York and New Jersey?

Colonel Boston. Yes, sir. They provided the funds.

Senator LAUTENBERG. So that right now we're seeing pretty good results? I don't know what the reports have been about debris collections on all of the shorelines. As one of the commissioners mentioned before, we're still early in the season.

Do you have any idea, Bill?

Mr. MUSZYNSKI. Yes. There have been occasional wash-ups. I think we have had probably more closings due to CSO and the bacterial levels, but I think there has been minimal material washing up. But even minimal, unfortunately——

Senator LAUTENBERG. Is too much.

Mr. MUSZYNSKI. Right.

Senator LAUTENBERG. But in terms of capturing the material that is floating out there, I think it is fair to say that there has been a marked improvement.

Mr. MUSZYNSKI. I believe there has. We have also discussed with Commissioner Daggett of the DEP that——

Senator LAUTENBERG. I have a nod of the head from Mr. Evenson, too.

Mr. MUSZYNSKI. Two of the rivers, the Passaic and the Hackensack, that also feed Newark Bay, which eventually feeds the Arthur Kill are particularly problematical in terms of floatables and we're going to try, hopefully, for next year to put a plan together to capture some of that material before it actually leaves those river ways.

Senator LAUTENBERG. When I was a child I swam in the Passaic River, and I hope before I leave this earth I'll have another chance to swim in it. That's just to ensure I'll live a long time.

Mr. Muszynski, you say that we'll have these problems until we control all sources—CSO's, storm water, etc. I want to explore EPA's role in addressing these sources. EPA has proposed to limit the storm water discharger program to incorporate it in municipalities. That means that EPA will not control storm water discharges from New Jersey coastal counties. In your opinion, does this make sense in terms of accomplishing our objective?

Mr. MUSZYNSKI. It won't control from all of them, but it will control some of them, or the majority—especially the big ones. That's where we're getting the material. First the CSO problem has got to be controlled, and the street cleaning, which is the bigger problem because the material that winds up on the street eventually winds up on the water, and then you get into the storm water problems. So it will, in certain cases, control some of the——

Senator LAUTENBERG. If we focus on these larger municipalities and we leave out all counties, are we gaining on it significantly? I guess any step in the right direction is helpful, but we're leaving out a large part of the contribution mechanism.

Mr. MUSZYNSKI. But I think the majority of the closings that we are experiencing, even before the floatables issue became the problem it is, is from bacterial levels that are coming in predominantly from the CSO's and from the treatment plants that can't handle the flows or breakdowns of pumping stations or forced mains or treatment plants. And there are occasional cross connections, too, between sanitary and storm sewers. So I think by getting the CSO's under control, to the largest degree we will have the major——

Senator LAUTENBERG. But the storm sewers are—again, they are shared problems. They become one problem, in many cases, but they are still the source of a lot of bacteria and a lot of toxic contaminants that get out there. Unless we focus our attention on all sources I think we miss something.

Mr. MUSZYNSKI. That's the other reason why I think the studies that we are doing now on the coastal waters are important to determine just what the really significant stresses are. Obviously I don't think anybody has the resources to handle everything all at once, and I think it is important for us to focus on those that are the most critical and that will have the most direct results in solving the problems.

Senator LAUTENBERG. What is EPA's role in seeing that these discharges are controlled?

Mr. MUSZYNSKI. The CSO's?

Senator LAUTENBERG. Yes.

Mr. MUSZYNSKI. Obviously they are controlled under the permitting systems that we have delegated, in this case, to both States. We are working with both states on that issue. We have supported the permits that the State recently issued to New York City requiring more stringent controls in the CSO program.

Senator LAUTENBERG. Do you monitor those permits even though the issuers are the States?

Mr. MUSZYNSKI. That's correct. We have an oversight role on those permits.

Senator LAUTENBERG. New Jersey believes that additional controls are necessary to take care of discharges from Fresh Kills and associated marine transfer operations. We heard a fairly glowing report here about how well things are going. Under the Shore Protection Act—again, which I authored—EPA is required to develop regulations to control discharges from the garbage operations like the one at Fresh Kills. What is EPA doing in this region to implement the Shore Protection Act?

Mr. MUSZYNSKI. At the current time I think our responsibility under the Shoreline Protection Act is to provide those regulations for the Coast Guard, which is supposed to be developing the permitting procedures for that. We have written guidelines on that program, and I think they should be out shortly. That would be supportive to the Coast Guard.

Senator LAUTENBERG. When were those guidelines due?

Mr. **Muszynski.** I believe they were due a month or so ago. I'm not exactly sure on that date.

Senator **Lautenberg.** And what does EPA do to monitor discharges from Fresh Kills?

Mr. **Muszynski.** In terms of effluent or——

Senator **Lautenberg.** Floatables and——

Mr. **Muszynski.** We've been actually doing surveillance. I think the Commissioner fondly refers to all the fly-overs that people do, as well as by boat, to see that their booms are in operation. The court case that was filed by New Jersey and got the majority of the cleanup actions and the changes implemented at the operational facility—from the reports that I get—plus I have flown over, myself, and sailed by on our boat—the operations have improved dramatically not only at the Fresh Kills Landfill, itself, but the transit stations.

We regularly inspect these transfer stations, and if we find violation—material falling into the water, etc.—we will——

Senator **Lautenberg.** Has the procedure generally tightened up? We have heard one point of view before, and we are allowed to have contrary points of view if they are, in fact, the facts. I know that they were overloading those barges, that a lot of stuff was being dropped over the sides. Are you now satisfied that the procedures are developed, the rules are there, and that they are being followed? Your responsibility is to make sure that it is appropriately monitored and implemented. Is it happening?

Mr. **Muszynski.** I think they have dramatically changed their operations, all for the good. Obviously the double boom system is working, as opposed to the single boom system. The skimmer vessels that they have that can work in those type of waters are there and operational. They have placed the nets over the barges, themselves. It is interesting, because I know they are working on a color net that can be seen from the air because the netting that they have now you have to look very carefully from the air to actually see that there is a net there. So they are going to change the colors of the netting just to make sure that we can see the netting.

So I think their operations have changed dramatically.

Senator **Lautenberg.** Is there any escape of floatables still continuing?

Mr. **Muszynski.** Any? I'd imagine occasionally they might have some. Like I said, in our inspections, if we do find materials—even blowing off of the piers or something like that—we will cite them for violation.

Senator **Lautenberg.** You remind me we're supposed to keep that material further away from the shoreline.

Mr. **Muszynski.** That's correct. And they are doing that. They are keeping their shorelines, themselves, cleaner.

Senator **Lautenberg.** Would you offer a quick comment on the leachate material that is escaping there?

Mr. **Muszynski.** We are working on a consent agreement to have the leachate controlled to a point——

Senator **Lautenberg.** Do you think it is harmful in any way, or is it just good old swimmable, drinkable stuff?

Mr. **Muszynski.** Well, I don't think it is good old swimmable, drinkable stuff. Again, it is a question of if you compare that to the

CSO overflows. Obviously the discharge from the CSOs are dramatically much more polluted than the leachate, but we do want the leachate controlled.

Senator LAUTENBERG. Yes.

Senator Lieberman.

Senator LIEBERMAN. Thank you, Mr. Chairman.

Mr. Muszynski, I think you know that we are very concerned in terms of this problem and the problem of water quality, generally, that no matter what we do in Connecticut we're going to be affected by what happens—particularly in New York State's sewage treatment facilities along the East River.

Mr. MUSZYNSKI. Yes.

Senator LIEBERMAN. What would be EPA's—in your region, since they fall into your charge—plan to upgrade those facilities? How is it going to happen?

Mr. MUSZYNSKI. I think the way it is going to happen is through the Long Island Sound Study. I think it is——

Senator LIEBERMAN. The Long Island Sound Study?

Mr. MUSZYNSKI. The Long Island Sound Study. I think it is critical and it was fortuitous, I guess, of Congress to give us those studies. What it allows us to do is to figure out exactly what the stresses are on the water bodies and which ones have an inter-relationship—whether it be non-point or point sources, which sewage treatment facilities, whether it be nutrients, do they need to upgrade their treatment of biodegradable waste or must they remove phosphorous or nitrogen, what are the real affects on the waterways from the variety of treatment facilities.

As that is developed through that study, I think then that will begin to set the requirements for additional upgrading.

Senator LIEBERMAN. Do you think that will really help us make the case, assuming the case we believe is there is real, that the water circulation is bringing sewage from New York into Long Island Sound?

Mr. MUSZYNSKI. I think it is going to show—and we're predicting—I think it is going to demonstrate that all of the contributors to the Sound in effect have an affect on that, and that some may be more localized as others and some may be as a result of drifting into the sound, itself. But I think it will demonstrate to a greater degree than we have been able to up to now just what are the combination of all of these affects.

Senator LIEBERMAN. As you know, we are all agitated and upset about the withdrawal of the Federal Government from funding the construction grant program. It may not be fair to ask you but I'll ask you anyway: what are your thoughts about how the States in your region—which, of course, affect our region—are going to pay that bill?

Mr. MUSZYNSKI. Well, I guess I'd describe it as more of a changeover than a withdrawal, but it is because it does go from a construction grant program to a loan program.

Our States—New Jersey, in particular, has set up their loan program and it is functional. It is operational. They are devoting, I believe, 100 percent—to the loan program with a few dollars one way or the other—on grant increases. But they are putting that money into the loan program now.

Senator **Lieberman**. Is it up to the need? We started months ago, but——

Mr. **Muszynski**. The program has never been truly funded up to its needs. So I'm not sure how you define it.

Senator **Lieberman**. As the great Senator said to me earlier this morning, some of these programs are just like a spit in the ocean compared to the——

Senator **Lautenberg**. I think that's an appropriate analogy.

Mr. **Muszynski**. Sometimes, though, I think we have to look back. We're never satisfied with what we have accomplished, but we have accomplished a lot through those programs.

Senator **Lieberman**. Let me ask Colonel Boston something which I mentioned before. My sense is that the New England Corps is not as well equipped as the Corps in this area, and, therefore, that we are, in that sense, not as well protected. There is not as much on the line as you have got involved here now.

I take it that you don't have any of the Corps vessels now stationed along the East River—which, again, is the body of water that most concerns us. Is that correct?

Colonel **Boston**. Correct.

Senator **Lieberman**. That is correct? Am I correct that assuming that in a case such as occurred last summer when the sewage slick came up from the East River and the harbor along outside off the shore from Stanford that technologically and mechanically it might have been possible if we had notified you and you had equipment available to have either moved it away or stopped it from coming or broken it up? I'm curious about the technology here.

Colonel **Boston**. Sir, I will ask Mr. Creamer, who is my Chief of Operations, exactly where our limits are.

Senator **Lieberman**. Please.

Mr. **Creamer**. The patrol boats that we have under the 1915 Act gets us up to the Throgs Neck Bridge. That's our area of response in terms of the boats. As to the question to the technical capabilities of the drift boats to deal with an oil, grease, or sewage slick, they are not capable. It is more like an oil slick, and we deal with wood slicks. So our equipment, which is unique to New York and San Francisco—those are the two harbors that ~~have~~ this. We would be like any boat driving through the slick. We wouldn't have any capability.

Senator **Lieberman**. So basically what you are doing now in New York Harbor is picking up—is that fair to say; as opposed to breaking up slicks like the one that came from the East River to Connecticut last year?

Mr. **Creamer**. Our charter is to pick up timber and driftwood. Right now in the floatables plan we are picking up garbage, which includes plastics and tires.

Senator **Lieberman**. Even if you were able to come into the East River towards Connecticut, you couldn't have helped much with the equipment you've got?

Mr. **Creamer**. Not with oil slicks.

Senator **Lieberman**. I appreciate that note.

Let me ask the last question of Mr. Muszynski. You said something earlier about teaching people what to flush down the toilet, if

I can put it that way, and what not to. There is no nicer way to put it.

I remember last year when we had the medical waste problem during the summer I was told that part of the problem was syringes that were just being dropped on beaches anyway—probably by drug addicts. But that part of it was that people who are using syringes for medical purposes, including perhaps diabetics, were just putting the stuff into the system. Is that the problem?

Mr. MUSZYNSKI. We believe that is part of the problem, and it may be that also the drug addicts, too, are flushing them, as well as dropping them on streets and washed down.

What we are trying to do is work with the manufacturers of these needles to give better information to the public as to what to do and not to do with the needle once it is used. And we are also going beyond just needles, though. We're looking at tampon applicators and the things that people flush down.

Senator LIEBERMAN. Understood.

Colonel Boston, I'd like to come back to my earlier question. Maybe your Operations Chief can help. Is there equipment anywhere that can deal with and break up a sewage slick like the one that headed towards Connecticut last summer? Or is that not existent?

Colonel BOSTON. The closest thing today would be something like an oil skimmer treating it as an oil slick.

Senator LIEBERMAN. And as we found in our exploration of what happened in Prince William Sound, at least their minimal utility was there anyway. So you have to count on nature, ultimately?

Mr. CREAMER. Yes, the sewage slick issue is not widely discussed. Congresswoman Lowey's office brought it to my attention last Thursday. We have been making some calls around to see. The most similar thing is, as I said, an oil/grease slick.

Senator LIEBERMAN. Right. Thank you.

No further questions.

Senator LAUTENBERG. Thanks very much. We appreciate your being with us today.

I'd like to now call the last panel: Doctor Swanson, Cindy Zipf, and Doctor Allen Hershkowitz. Please come to the table.

Even though we have all friendly witnesses to the environment at the table, we are, nevertheless, mean and lean, and we are going to confine it to five minutes of testimony. We will take your full statement for the record. In order of process, we will take Doctor Swanson first and then Cindy Zipf and Doctor Allen Hershkowitz.

STATEMENT OF DR. LAWRENCE SWANSON, DIRECTOR, WASTE MANAGEMENT INSTITUTE, STATE UNIVERSITY OF NEW YORK AT STONY BROOK

Dr. SWANSON. Thank you very much. It is a pleasure to be here and to represent the Waste Management Institute of the State University of New York.

I'd like to first of all point out that education is a significant part of our activity at the Waste Management Institute and Marine Sciences Research Center. In that regard, we have submitted for the record several types of educational materials—first of all, two flyers dealing with the health effects of medical waste that might wash up on the beaches and where they come from; secondly, a question and answer book with everything you ever wanted to know about floatable waste; thirdly, a——

Senator LAUTENBERG. Has it become a best seller yet, Doctor Swanson?

Dr. SWANSON. We hope it will be.

Senator LAUTENBERG. We hope so, too.

Dr. SWANSON. Third is a plan that coordinates all the existing plans of the Federal agencies, the State agencies, and the City of New York. (See p. 203.) The purpose here is to pull together all of the individual plans into one cohesive statement so that people can use it effectively, not only in the tri-state area but perhaps in other States. It is also useful in that it points out where there are still voids or flaws in the plans when you add them all up.

Another activity that we have been involved in is examining the sources and the means of transport of floatable waste. And, in fact, we track the local climatology and oceanography almost on a routine basis in order to provide information to the States, the counties, and the city. We served as consultants to both the State of New York and to the State of New Jersey in years past on this particular issue.

I'd like to summarize, if I might, a couple of points that we have found as a result of some of our investigations and as a result of a conference that we held this past March on the floatable issue. I think it is important to summarize these because the perception is that floatable waste is a serious public health threat, and I think that it is important for all of our citizenry to know just exactly what that threat might be—or the lack of threat.

First of all, there is no evidence to suggest that the public health is threatened by the wash up of medical waste. The risk of acquiring AIDS, for example, is close to zero. Primarily that is because the chain of infection is broken at several places between the source and between the ultimate fate of the material if it should come in contact with individuals.

Senator LAUTENBERG. Doctor Swanson, you say "close to zero," but you don't say "zero."

Dr. SWANSON. That's correct. I think it would be virtually impossible to say that the risk of acquiring anything is zero, but as far as the medical profession is concerned it comes about as close to zero as they are willing to state. But the risk probably is never zero.

Now, we're talking here about the floatable waste, not medical waste, for example, that a beach user infected with Aids might drop and then instantaneously come in contact with an other individual. This is the floatable material coming from the many sources that have been described in earlier testimony.

Senator LAUTENBERG. Is it fair to say there is no greater risk contracting AIDS through the materials floating in the water than there is in normal, everyday life minus sexual exposures and things of that nature.

Dr. SWANSON. The risk is probably closer to zero than what you just described. I want to point out I am not a medical doctor, but this is based on——

Senator LAUTENBERG. Research done at your institute?

Dr. SWANSON. That's correct. Second, another issue that was of major concern last year was the safety of eating seafood products. There is no known way for seafood products to become infected with HIV virus or hepatitis through floatable route. Again, I'd like to clarify that there is the potential to get hepatitis through shellfish contaminated by raw sewage such as has been described in the previous testimony. But from the floatables directly, we know of no way of transmitting these diseases.

I'd like to go on and also say that we support the passage of S. 506. We think it is very important in the short term. I would like to point out, however, the sweeping the harbor with brooms, essentially, is not a very efficient or effective way to solve the problem in the long term. I believe a number of activities have been suggested earlier today with regard to the long-term solutions. I'd like to just reemphasize a couple of those.

First of all, I think hospitals do need to reexamine their use of non-biodegradable materials. Virtually everything that is in the solid waste stream of a hospital now is disposable. Certainly some of those things could be reused and disposed of more effectively.

Senator LIEBERMAN. Do you think we should mandate that?

Dr. SWANSON. I think you have to be careful in doing that, because there are many issues here that are far greater than just waste, and one is the cost of medical care and the other is the health and safety of the people involved. It is probably impractical to go back to reusable syringes—both from the economical point of view and from the public health point of view. But there are other materials that could be examined for reuse, certainly.

I think the idea of regional incineration probably is very important for the medical waste industry. Hauling materials is certainly not the solution. We need to provide a means of disposal that is effective and economic. At the university hospital out where I come from we are now estimating that the cost of the Medical Waste Tracking Act is probably going to add about $6 per person per day in terms of patient care. So that act is going to be very, very expensive and I think we need to look at——

Senator LIEBERMAN. That's a startling number.

Dr. SWANSON. That's right.

Senator LIEBERMAN. What are the components of that? I'm curious of what the components of that are. That's a lot of money.

Dr. SWANSON. Well, it consists of two or three things. One is broadening the whole notion of what medical waste is, or infectious waste, so that the volume is getting greater by definition. And, in addition to that, the cost of disposal is getting greater on a per pound basis.

Senator LIEBERMAN. I'll be interested to follow that as it goes along. That's startling.

Dr. SWANSON. I'd be more than glad to try to help provide additional background in that regard.

Senator LIEBERMAN. I'd appreciate that.

Dr. SWANSON. The second thing that I'd like to note is that there have been significant improvements in the harbor with regard to the disposal of sewage-related floatable debris. I would just point out that between 1976, when we had our last floatable incident, and today that there has been nearly a two orders of magnitude decrease in the amount of raw sewage that routinely goes into the harbor. That doesn't mean that we're not bypassing any less than we were in years past. What it means is that more treatment plants, in fact, are on line at the secondary level. In 1976, for example, the Red Hook section of Brooklyn was still coming out raw, as was the west side of Manhattan.

Third I think that we ought to be looking at supplying more resources for the sewage treatment plants, themselves. I mean resources in the form of operational and maintenance support. It is very easy to have those kinds of resources diverted to other uses. There is nothing glamorous about an operation and maintenance budget but, in fact, that's the heart and soul of the operation in many of these treatment plants.

We should also be looking at having backup electrical supplies for many of these treatment plants. In some cases they don't exist at all; in other cases, they are partial. But the problem that we had at Port Richmond last June is a case in point where the major power supply was knocked out by a thunderstorm and the plant was forced to bypass for 24 hours. So we should have that backup power supply at all times for these sewage treatment plants.

Another point is that government and industry should work together to reduce the need for packaging. Clearly, much of the material that is washing up in the form of floatables is package related. Perhaps this is an area that the Congress can look to in providing some overall guidance for the nation.

I also think that it is probably important that we begin to look at using biodegradable plastics for some of the materials that we know that can't be recycled. For example, we know that diaper liners are not going to be recycled. We know that tampon applicators are not going to be recycled. If these materials could be made from biodegradable materials that are also healthy for the people that use them, then that would be a benefit with regard to the overall floatable problem.

Lastly, I'd just like to summarize by saying that I think it is important that we keep the pressure on to implement some of these improvements—particularly the long-term Solution for the CSO problem.

In 1976, some of us sat before similar groups and essentially said many of the same things that are being said today. Following 1976, the Floatable problem essentially disappeared for 12 years. Then we began to ask, in 1987, what went wrong and why we haven't done anything about it.

The fact is that we didn't keep the pressure on the municipalities and the states at that time, and I think that it is very important that we have the mechanism to continue to apply the pressure so that 12 years from now we're not sitting here going over the same debate.

Thank you for the time.

Senator LAUTENBERG. Thank you very much, Doctor Swanson. I appreciate your comments.

I'd like to ask Ms. Cindy Zipf, who I have worked with a lot over the years, to give her testimony.

Cindy, we have a five-minute rule. You can see we are generous and kind and gentle and all that kind of thing, but not too much.

Ms. ZIPF. I'm going to try to stick with it. I'm going to do my best.

STATEMENT OF CINDY ZIPF, CLEAN OCEAN ACTION, HIGHLANDS, NJ

Ms. ZIPF. Senator, it is nice to see you again. I want to welcome you here to New York, which is sort of the core of the problem. The problem is the metropolitan New York and New Jersey area, which is the most densely populated, urbanized, industrialized area in the country. That's our main problem.

With me here today is Eric Ginsberg, and he is our New York Coordinator for Clean Ocean Action. We're trying to expand our participation in the New York region because we recognize that the pollution is going to know no boundaries. As New Jersey is very organized and the citizens are in a position to bring about change and are bringing about change, we want to increase that participation in New York to get the same kinds of things going on. And we're really excited about what has happened in New York. There is a tremendous desire, particularly on Long Island—both in North Shore and on the South Shore. The North Shore is involved in the Long Island Task Force and the South Shore is getting more involved in the pollution campaign that Clean Ocean Action it is involved in.

My testimony is there for you to read at your convenience, but I want to point out a couple of areas of concern. One is with respect to the terrific piece of legislation that was just recently passed, which was the Plastic Pollution Prevention Act which Senator Lautenberg spearheaded. This act was to implement on domestic levels MARPOL, which is the international treaty, as well.

There was an article that brought to bear concern for me because this is a very complex piece of legislation and it is going to require continual oversight on the part of the committee to make sure that we are not going to allow for any kind of weakening. As Doctor Swanson said, we need to have vigilance with this regard. We can't allow things to be placated or regulated and then not follow up with enforcement. So I think oversight is very critical.

As an example, in an article appearing in the "Asbury Park Press"—and I'm not normally one to use the press as a source; however, it was on Saturday and I didn't have an opportunity to confirm or deny this report. It referred to the implementation of an international agreement, and one can assume that this is plastic. This agreement was the Plastic Pollution Prevention Act.

Coast Guard's Steven O'Mally discussed the rules of the law, which prohibits the dumping of any plastic materials between 3 and 12 miles, but the law stipulates that plastics can be dumped beyond 12 miles as long as they are put through a grounding device or a garbage disposal type device. I'm concerned because my understanding of that law was that it was to prohibit any plastic debris. Whether it is made smaller or whether it is bigger, it still——

Senator LAUTENBERG. It is not intended to include plastics. Non plastic material.

Ms. ZIPF. Right. Well, the Coast Guard apparently has a misunderstanding.

Senator LAUTENBERG. We will inform them of their misunderstanding.

Ms. ZIPF. Great. Because I think this is the kind of thing that can happen. As we try to regulate the tremendous quantities of garbage coming from the harbor, itself--the inner harbor area—it is going to take some vigilance.

One story that I love to tell is from a commercial fisherman that was trawling off the New Jersey shore here about 12 miles offshore. When he brought up the net it was just filled with plastic champagne glasses which he attributed to a cruise ship which had gone by in the night.

So these cruise ships, the military ships, all of these ships are going to need some strong, strong oversight. So the vigilance with respect to that law, which was landmark and very exciting, is going to be crucial.

The other two issues that I want to touch on are Fresh Kills and the combined sewer overflow.

With respect to Fresh Kills, there was a lot of talk today about how far Fresh Kills has come. Well, when you think about where it was, it seems that they have made a dent, but the barbaric condition of that site in the beginning was really horrendous. So they have come some distance, and that was, in part, because of the Shore Protection Act, which you also instituted.

I think, though, that we have to move additionally further with respect to this law in that no open hauling of any garbage should be allowed, and that containerization of the garbage is required—complete containerization, not netting.

There was an incident that I recall from last year where a garbage barge hit a sludge barge and the garbage barge sank.

Senator LAUTENBERG. That doesn't sound like a marriage made in heaven.

Ms. ZIPF. No, it doesn't. Not at all. What a concept.

In any case, the garbage barge did sink and that garbage was lost.

So I think containerization is a key component, and maybe we can move that forward. I think that unless that happens, there is always going to be an opportunity for spillage.

In addition, I'm concerned about the private barges. You heard the New York State representative discuss the fact that the New York Sanitation Department barges have nets on them, but there is some private hauling of garbage, as well, and I think that needs to be dealt with. I'm not sure whether or not they are complying, but it should be looked into. I think there is an open hole there.

I'll move now to CSOs. You heard today that the CSOs—there are over 680 of them in the harbor area, and when it rains it pours. No matter what kind of pollution control devices we get put on our sewage treatment facilities or what have you, every time it rains a quarter of an inch or more they are going to overflow. We had 10 inches of rain in May and we are up to 71/2 in June already. It boggles my mind to think about how much raw sewage, industrial waste, and street silt has been pumped into our estuaries since the beginning of May. These problems must be addressed, and I would like to talk about several ideas with respect to that.

Senator LAUTENBERG. Cindy, whatever you've got there in the testimony will be looked at.

Ms. ZIPF. I do want to say two things. One, we endorse 506 because it does collect the debris once it gets out into the water. S. 506 does mandate, then, what is already occurring on a regulatory basis and it will ensure that this program extend well beyond the public focus and attention on floatables, which is right now. I think that is a good thing.

The other thing that I'd like to say is that Clean Ocean Action has been holding beach cleanups for the last 5 years on Sandy Hook, and I think the quantity of garbage and the types of garbage that we collect can be used as a marker to see how successful these cleanup programs are in reducing the amount of garbage on the beaches. We have been doing it for 5 years. We have been separating it. We have been separating out plastic tampon applicators, styrofoam, plastic debris, and bottles and cans. So as we continue on with our beach cleanups, it could be used as a marker to see how much improvement we have been making in keeping floatables out of the harbor. As you know, Sandy Hook kind of sticks out like a sore thumb, and so it can be used as a marker.

What I'll do, as we continue our beach cleanup, is send you that material.

Clean Ocean Action believes that education is a very key component. Attached are some of our educational pieces that we distribute: "The month of July is Clean Ocean Action's coast month," "Clean Ocean Action Shore Tips," which educates thousands of citizens about the ways they can reduce litter.

The rest of my testimony is self explanatory, but I do want to mention, because S. 506 is so much related to the wood debris collection process, that the garbage collection process does result in some horrifying activities off the Jersey shore that blatantly violate over seven Federal laws. I don't think that this should go unnoted, and I really think that we need some Federal leadership on this.

I know Congressman Pallone has introduced some legislation, and I believe you are interested, Senator Lautenberg, in introducing it on the Senate level.

Senator LAUTENBERG. What is the legislation?

Ms. ZIPF. The legislation would begin to require and ultimately ban wood burning off the Jersey shore which takes place just 17 miles off the coast. That is the kind of technology that has been implemented for over 15 years. It is unconscionable. It violates the Clean Air Act. It violates RCRA. It violates the Ocean Dumping Act. It violates a whole host of laws, and it is simply done because there are not "available alternatives," but have not been really looked for and there has never been an environmental impact statement done on this activity. We have been promised one for over five years, but we have not received one.

So I think in the context of S. 506 it is a great program, but it is collecting of a tremendous amount of degree that is doused with preservatives and creosote and other hazardous materials, and it is burned off our shore, and it very much needs to be dealt with.

Senator LAUTENBERG. Thank you, Cindy.

Doctor Hershkowitz?

STATEMENT OF DR. ALLEN HERSHKOWITZ, NATURAL RESOURCES DEFENSE COUNCIL

Dr. **Hershkowitz**. Thank you, Senator Lautenberg and Senator Lieberman.

My name is Allen Hershkowitz. I'm senior scientist at the Natural Resources Defense Council. I believe you know who the Natural Resources Defense Council is.

Senator **Lautenberg**. Very well. What is your background, doctor?

Mr. **Hershkowitz**. I have a Ph.D. in political economics, specializing in utilities technology—garbage issues. Actually, some of the remarks I make to you are based on medical wastes, in particular, because I just got back from the Study of Medical Waste Management with Switzerland, Sweden, and West Germany—three countries which, by the way, have no instances of medical waste mismanagement or public inconveniences due to medical waste.

I would point out that our position on this, of course, echoes Doctor Swanson in that medical waste is a small problem with regards to floatables on the beach, although it does create a substantial amount of backlash. Medical waste, which is only 1/2 of 1 percent of the 6 billion tons of waste that is being generated, was responsible for $2 billion worth of economic losses in New York State and another $1 billion in New Jersey, alone.

For the record, you should know that since two days before Memorial Day this year, 44 beaches have already been closed—not necessarily due to floatables. And, in fact, medical waste has been reported to have washed up in New Jersey, New York, Michigan, Pennsylvania, and Long Island already this year. I would remind you that the first day of summer is Wednesday. We haven't even hit the first day of summer and we already have 44 beach closures.

We think that S. 506 is an important contributor to minimizing the amount of floatables washing up into our passage. Like everyone who has spoken today, however, we would point out that the CSO problem is more substantial infrastructure reform that is required to modify this problem. I'm not going to repeat the data with regards to the millions of gallons of material that washes up. I would just add a few things to you.

While we don't know the amount of syringes being illegally used in New York City, for example, just in New York City, along, at least 52 million syringes enter the waste treatment every year legally. And, in addition, the Medical Waste Tracking Act continues to allow infected liquids to be poured down the drain legally—a practice which, by the way, is outlawed in Switzerland, West Germany, and Sweden.

Senator **Lieberman**. Infectious liquids?

Dr. **Hershkowitz**. Infectious liquids.

Senator **Lieberman**. What is that we are talking about?

Dr. **Hershkowitz**. Contaminated blood, dialysis wastes. In fact, part of the problem is systemic. I think that Doctor Swanson referred to it earlier that hospitals and other medical establishments are hard pressed for adequate disposal facilities. Clearly some kind of regional compact for infectious materials in regards to incineration of infectious materials is necessary. We, in New York City, have 57 on-site hospital incinerators State-wide. Every single one of them, according to the New York State DEC, would fail current 219 regulations. They are all substandard technologically. They are operated by janitors on the lowest maintenance budget.

We need professional operating high-tech regional facilities which, by the way, data from Germany and Sweden reveals that the regional compacts are more cost-effective for hospitals given the current pollution control equipment that is necessary in order to minimize the emissions of organic and acid gasses. The on-site incinerator just can't do that economically, where the regional facility can.

Senator LIEBERMAN. Let me clarify what you have said. These infectious liquids could still be disposed of through the existing sewer system? They're not covered by medical waste tracking?

Dr. HERSHKOWITZ. They are, but it allows it to continue.

Senator LIEBERMAN. It's pretty easy to slip it down the drain.

Dr. HERSHKOWITZ. Right. Some beach closings have already occurred, and we are outraged that medical waste continues to be dumped.

Senator LIEBERMAN. Do you see the infectious liquids as a health problem if slipped down the drain?

Dr. HERSHKOWITZ. We participate in a number of advisory forums, as well, like—again, I hate to keep referring to Doctor Swanson, but he's a good guy to refer to. To the best of our knowledge, the AIDS virus, of course, will not survive under those kinds of conditions. But there are other kinds of viruses that we are concerned about that the data is just not in on. I can't say to you—to the best of our understanding, the danger from infection is low, but I can't give you any actual quantification of what the risk actually is because no analysis has been performed, and we don't even know, in fact, how much infectious liquid is going down the sewers.

In fact, Congress, when it passed—I'm diverting here a little bit, and I apologize, but when it passed the Medical Waste Act mandating EPA to track the medical waste we don't know how much infectious liquids are going——

Senator LAUTENBERG. May I remind you that's a demonstration program in the tristate area to try to get a handle on it. I appreciate your comments.

Dr. HERSHKOWITZ. Actually, by the way, we are particularly disappointed with it because it is a demonstration project. We figure that if it is a demonstration project you might as well do everything you can to see what is burdensome, what is awkward, what is costly, and what doesn't work. But, in fact, when you compare the Medical Waste Tracking Act with regard to manifest systems, with regard to introduction of infectious liquids into the drain, with regard to the legality of transporting medical waste through the mail—which is still allowed to occur—we find substantial deficiencies in it—not to mention, of course, the initial——

Senator LAUTENBERG. We want to learn. That's why we put it in. It was not an easy task, as you know, to even get that through. We had other parts of the Nation that wanted it to be included, and if they were included the chance of passage was slim or slimmer. So what we did was perhaps not sufficient to determine finally what the courses of action might be, but at least we have the chance now to review it.

Dr. **HERSHKOWITZ**. We have testified previously on the Medical Waste Tracking Act, and I'll send you that testimony which deals specifically with it because it is more oriented towards floatables and, along those lines, clearly some kind of procedures with regard to catch basins and outlets in New York City that need to be considered.

We are somewhat disappointed with the pace at which—we understand some of the delays that are necessary with regard to the construction of the sewage treatment plants more generally, but with regards to solid debris that may be discharging through the combined sewage overflow systems, we think there is more expeditious remedies that may be considered than are being considered with interim solutions with regard to catch basins that may be put up to reduce the amount of solid material that is washing over into the waterways.

We think the public education program needs substantial upgrading—especially with regard to medical waste.

I would just point out to you that old medicine, for example, which is sometimes flushed down the toilet and sometimes contains heavy metals—in fact, some old medicines contain so much heavy metals that one Swiss private firm is now involved in recycling mercury out of some of the metals. In Switzerland——

Senator **LIEBERMAN**. What kind of medicines——

Dr. **HERSHKOWITZ**. We'll give you a list of the medicines that contain the——

Senator **LIEBERMAN**. Heavy metals?

Dr. **HERSHKOWITZ**. That's right.

Senator **LIEBERMAN**. Would that be detected in airports?

Dr. **HERSHKOWITZ**. I don't know much about airports.

But pharmacies in hospitals abroad are required to accept old medicines. Citizens are not required to return them, but pharmacies and hospitals are required to accept them in order for the proper disposal.

Again, we come to this with the perspective that each category of waste has its proper disposal route. If you tell us what it is, we'll tell you where it belongs. I think, in fact, that if we told you what it was you could tell us where it belongs, too. We need to better identify these.

With regards to the cost of this, we have been socializing our cost on the environment for a long time. In testimony given before Mr. Pallone's committee, Commissioner Schultz pointed out that New York City did not want to spend the $3 million necessary to provide the electrical backup system necessary for the Staten Island Sewer Treatment Facility which last year went out and discharged millions of gallons of raw sewage into the water. They didn't want to spend the $3 million necessary to provide the emergency backup electricity.

Let me just point out that the $2 billion in economic losses from last year, alone, would have made that a very prudent and cost-effective decision.

We have been socializing on the environment for decades. The cost up front in terms of making the transition may be substantial.

We think, in the long term, it will be beneficial to everyone involved, and certainly to the public health.

You have my testimony.

Senator **Lautenberg**. Thank you very much.

We will spend just a couple of minutes on some questions.

First of all, I just want to correct for the record—and I'm sorry that Commissioner Schultz is not here—my figure for the Tottenville Staten Island raw sewage discharge of 6 million was short. It is almost 6.8 million gallons a day, as contrasted to the commissioner's stated guess that it was about 1 million. That is a fair difference. It would be in your State, I can tell you, whether it is 1 million or 6.8 million gallons.

In any event, I was very curious, Doctor Hershkowitz. Could you tell us about the three countries that you visited? You said that each one of them has relatively complete disposal of medical waste.

Dr. **Hershkowitz**. Right.

Senator **Lautenberg**. Can you summarize? How do they do it?

Dr. **Hershkowitz**. We're convinced medical waste actually is a very small and simple problem to deal with. Basically we are talking about tracking, packaging, and proper disposal facilities.

To track it, whereas the U.S. EPA has put in a four-part manifest system, the European countries I referred to put in five-part manifests. This is the way it works: the generator gets a five-part manifest system. He writes in the code number of the material he is generating and he writes in who he is giving it to. All the transporters are licensed. In Germany they have only specially-designated trucks to transport infectious medical waste. Again, in the Tracking Act it is specifically indicated that it is legal to transport consumer items along with medical waste in the trucks simultaneously. In fact, it is still legal to transport medical waste in refrigerated trucks which are not dedicated only to the transport of medical waste, so consequently you could get a situation where the same refrigerator truck that is transporting medical waste could also be transporting produce on its way back. And, in fact, that is a very likely scenario.

The generator has a five-part manifest system. He keeps one for himself and gives four to the transporter. The transporter—I won't get into all the details—keeps one for himself and give three to the disposer. The disposer takes one copy, sends it back to the generator and says "We got your waste," and then sends another copy to the EPA, the regulatory agency, which says "We got this waste from this person, from this agency, from this medical clinic. This is what it is, and this is how we disposed of it."

Senator **Lautenberg**. And they balance the quantities simply.

Dr. **Hershkowitz**. That's right. Everybody keeps track of it. The EPA, even though it was mandated by Congress to keep track of who is generating what, does not require—nor does New York or New Jersey—that a copy of the manifest form be sent to the regulatory agency.

Now, again, the major source of debate is an absence of data. What would it take to have one additional form sent to the regulatory agency for filing or for input into a computer? We're not convinced that the financial burden would be so great—especially as it concerns——

Senator **Lautenberg**. That's part A. What else?

Dr. **Hershkowitz**. And then they have special kinds of packaging. In Germany they are actually hard, rigid, plastic containers. In Sweden they are hard, rigid, cardboard containers. These are able to be incinerated. They are transported by regulated transporters who have licenses. There is substantial enforcement oversight. These materials transporters call ahead to regional facilities. The onsite facilities have been closed down. Onsite incineration is illegal in Switzerland. Between 150 and 200 onsite incinerators in Bavaria have been closed down in the past eight years because of new air regulations. In Sweden all new air regulations make onsite incineration basically indefensible economically, so they are also closing them down.

So we go to regional facilities. Now, in some cases you have a dedicated furnace at a regional facility—like in Munich—where you have the large municipal solid waste incinerator and next to it a small furnace that deals only with infectious materials from hospitals and the blue gasses that channel through the air pollution control are put into larger units——

Senator **Lautenberg**. We're sure that the air discharge——

Dr. **Hershkowitz**. That facility emits much less pollutant than even some of the state-of-the-art facilities in the United States right now, primarily because there is much greater professionalization of the operator. In Germany there are two training schools for operators of waste combustion facilities. In the United States none exist. We take people who have steam experience or fuels like coal, oil, or natural gas and put them into heterogenous garbage, which is sometimes pathological——

Senator **Lieberman**. Why are they ahead of us over there?

Dr. **Hershkowitz**. Pardon me?

Senator **Lieberman**. Why are the Europeans ahead of us? They are a lot older than we are as a civilization, but this is a new problem, so why are they advanced? Is their political system more responsive? What has happened?

Dr. **Hershkowitz**. I think that is a very big question. Part of it has to do with culture. In Europe they are municipally owned and operated. I would argue against that in the United States. In the United States, as you look at the data the most egregious offenders are municipalities. So there is just a fundamental difference in the way the cultures operate.

Also, they take a different philosophy. They say that in the absence of valid toxicological evidence we are going to be prudent and assume there is an adverse environmental condition. In our situation the industry prevails very often in the regulatory arena and says, "You can't prove it is dangerous, so we should be allowed to continue to do it." So while we here have to prove that something is safe, abroad there is a greater tendency—and this goes for Japan, as well, which I have studied quite carefully in regards to their waste management problems—they also take the position that in the absence of validated scientific evidence be prudent and push technology as far as it will go. We don't do that.

Also, I guess they have been burning for a much longer period of time and have, therefore, come to understand the dangers associated with emissions before we did. Also, they have been pre-sorting. There is so much to say about this.

Senator **Lieberman**. Our pure environmentalists, those who are most demanding of good air quality and so forth, accept the notion that incineration is a satisfactory way.

Dr. **Hershkowitz**. Yes. The Green Party in Bavaria endorsed the construction of a regional incinerator for infectious waste. We are talking about incineration of infectious waste. By the way, NRDC is in favor of incineration of infectious waste.

Senator **Lieberman**. That's quite revealing for me.

How about other environmental organizations concerned with air quality and so forth?

Dr. **Hershkowitz**. Under the most strict regulatory—the regulations are not in place to satisfy us, but we could let you know exactly how they might be constructed so that they will satisfy us. There is a way to do it in terms of infectious material and pathogenic material. There is a way to do it.

Senator **Lautenberg**. So, in short form, it is the manifest getting back to the source—that sounds so easy. I come out of the information industry. So having a manifest that sufficiently records all the movements and the material that the transport of the material is——

Dr. **Hershkowitz**. Professionalization of transport. Right.

Senator **Lautenberg**. And, lastly, incineration?

Dr. **Hershkowitz**. Under very precise——

Senator **Lautenberg**. That's what is happening in these countries?

Dr. **Hershkowitz**. Right. And then, of course, much greater public education. And also hospitals and pharmacies which are very important institutions in communities need to play a very important roll with regards to this. Most people are not in the hospitals. The majority of medical waste being generated is not being generated by hospitals. A substantial amount is coming out of the home, and EPA's coffee can approach, for example, which recommends that people buy a bleach bottle or put their syringes in a coffee can and dispose of them that way we think is really deficient, especially in the light of the technology in place such as being offered by some industries—dedicated containers for syringes—or some kind of a mechanism established where you get them in such a way so that you can put them back into the container and then return that when you get your new purchase of syringes.

Senator **Lieberman**. What do you think of Doctor Swanson's discussion of biodegradable medical equipment?

Dr. **Hershkowitz**. Let me just preface my remarks by saying there is no regulatory definition of biodegradable or photo-degradable, so what that would actually mean would probably vary by vendor and by municipality and by state, so that has to be worked out.

Senator **Lieberman**. That's the first thing you have to work out.

Dr. **Hershkowitz**. Yes. What are we talking about with "biodegradable"? I think that as it concerns marine life, absolutely, with regard to special plastics—anything that degrades much more rapidly, regardless of the regulatory definition, would be welcome. I don't think that biodegradable materials, in general, however, are really going to play a substantial contribution in solving this problem.

Senator **LAUTENBERG**. There are a lot of people who think that simply turning it into biodegradable is going to solve the whole problem.

Ms. **ZIPF**. You're still generating the waste, and you're still having to dispose of that waste.

Senator **LAUTENBERG**. Right.

Ms. **ZIPF**. Reducing the amount of that waste is really where it needs to go—reduction of packaging, reduction of the amount of plastic materials. All those kinds of things really have to be initiated.

Senator **LAUTENBERG**. We have a legislation designed for waste reduction.

Dr. **HERSHKOWITZ**. And, most importantly, reducing the toxic impact on the environment. Something may be biodegradable, but if it contained chlorides or metals than we don't want it to be biodegradable. It is not the plastics—it is not the hydrocarbons in the plastics that we are concerned about that are tightly bound and don't degrade. We're not concerned about that. It is the additives, the chlorides that are added. That's what concerns us.

Senator **LAUTENBERG**. Especially in the ocean. Well, any place.

Senator **LIEBERMAN**. All of you have said that the combined sewer overflows are right at the top. What is the role in the future, if any, for a conservation program? In other words, it strikes me that one way is to cut the amount of water going into the system. Is there anything to that?

Senator **LAUTENBERG**. I am going to leave you in charge, Senator Lieberman. You're new and you deserve this kind of responsibility.

But I just want to say thank you to all of the witnesses.

Senator **LIEBERMAN**. Thank you, Mr. Chairman. You are now seeing what has been referred to as the seniority system.

This will be very brief.

Dr. **SWANSON**. The water issue, I think, is a very interesting one in that there is probably nothing less efficient than using water to collect all of the materials throughout New York City as a means in concentrating it in something called a "sewage treatment plant." And then we once again use water to try to disperse it. I think this has been an age-old argument amongst sanitary engineers.

Certainly, in the short term, looking at reducing the volume of water going into the toilet to begin with is a reasonable thing to do. I think there is some talk in New York State going to a 1.6 gallon tank instead of a three or four gallon tank. That is probably a reasonable thing to do. You must realize, however, that what you're going to do with the present treatment system is increase the concentration of contaminants that are going into the sewage treatment plant rather than diluting them with that extra four or five gallons. So it is a complex thing that should be looked at. It is not something we're going to solve overnight.

Dr. **HERSHKOWITZ**. I'm not sure if this exactly answers your question, but we've got a combined sewer system, and we've got problems such as industries discharging into the combined sewer system. If you were to separate out the industrial effluent going into the combined sewer system from the normal household discharges you would have a much cleaner discharge—which, by the way, would then be more amenable to beneficial re-use. This doesn't solve the overflow problem, but it does change the ultimate composition of the materials which we are now trying to get rid of and get out of the ocean.

Senator LIEBERMAN. But is there anything we can do about that?

Dr. HERSHKOWITZ. Get industry out of the municipal sewer system.

Senator LIEBERMAN. You mean just reducing water, or are you talking about the untreated——

Dr. HERSHKOWITZ. Both. Their effluents go into the normal sewer systems that we use. We feel that by requiring them not to put their material in that, that they would be encouraged to reduce the amount that they are producing at the source. We think that ultimately you have to back up towards source reduction, and source reduction is pre-treatment of the material going into the sewage system, whether it be educating someone not to flush a syringe down a toilet or whether it be requiring industry not to discharge into the system.

Ms. ZIPF. That's a very important issue with respect to the quality of the sludge that needs to be dealt with. Nationwide, about 75 percent of the toxic components wind up in sewage sludge. If you can clean up the quality of the material getting into a sewage treatment plant, you can clean up the quality of the sewage sludge.

Municipal treatment plants were not built to treat toxics, and yet industry has found a wonderful loophole. Rather than having to cope with their own hazardous waste problem, they simply pipe it into the domestic sewer system.

Senator LIEBERMAN. Without treating it?

Ms. ZIPF. In most cases without any kind of pre-treatment.

Senator LIEBERMAN. Some States have pretreatment requirements.

Ms. ZIPF. Some States do have some pre-treatment requirements, but very few are strict enough to really reduce the——

Senator LIEBERMAN. Hard to police.

Ms. ZIPF. And very hard to enforce.

Dr. HERSHKOWITZ. And, of course, it uses capacity. And to the extent that we need more capacity for sewage treatment and to the extent that industry is using it, there won't be the capacity to——

Senator LIEBERMAN. Do you think we should come to a point where we require those who are major sources of water and sewage to at least try to diminish the problem by having their own holding basins to collect rainwater during times where combined sewer overflows would be most likely and holding them for release later on?

Dr. SWANSON. Rainwater is a difficult thing to deal with, but industrial discharges should be separated from the municipal sewage systems. And, even before that, some kind of source reduction needs to be required to detoxify the effluents that are being discharged.

Ms. ZIPF. Toxic Use Reduction legislation has been introduced in the State of New Jersey to try to cope with the toxics that industry is using and to develop an audit for toxic waste. There are a lot of ways to reduce the amount of toxic waste being used by industry; it just hasn't been forced. Even at some levels it comes down to better maintenance—a lot of leaks, a lot of spillage. This increases the toxicity.

Getting back to source reduction, limiting the amount of toxics that these industries are using is absolutely key. We can have all the pre-treatment programs we want, but if what they are actually doing is creating a hazardous waste problem that needs to be incinerated or trucked somewhere else to be disposed of through the source separation of this material, we're not solving any problems. Reducing the amount that we're actually generating is the critical answer.

Senator LIEBERMAN. I don't want to misuse this extreme authority that I have today.

I don't want to let the power go to my head, so I'm going to terminate.

I thank the five of you very much for being here, and all of you who have sat through the morning. For me it has been a very educational morning, and I look forward to going back to Washington with my senior colleagues who are leaders in this area and try to be of some help.

of you who have sat through the morning. For me it has been a very educational morning, and I look forward to going back to Washington with my senior colleagues who are leaders in this area and try to be of some help.

Also, I hope that the accident that the three of us who are on this committee concerned about environmental questions are each from one of the States of the tri-state area will lead us to play a constructive role in trying to see to it that the three states do cooperate.

I hope the citizens of these three States will be proud to learn from this hearing what their local State agencies are doing to address their concerns—particularly about the state of the beaches this summer. And I trust that the individuals will dedicate themselves to the choices only an individual can make—to conserve precious resources, to safely dispose of refuse and garbage, and to take that extra step. Whether we pay attention or not, certain truths do hold. The waters will continue to flow. The earth will continue to turn. And some time, somewhere, each of us will be downstream from someone else.

Thank you very much. This concludes the hearing.

[Whereupon, at 12:30 p.m., the subcommittees were adjourned, to reconvene at the call of their respective Chairs.]

[Statements submitted for the record and the bill, S. 506 follow:]

TESTIMONY OF LANGDON MARSH
EXECUTIVE DEPUTY COMMISSIONER
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BEFORE THE SENATE SUBCOMMITTEES ON
WATER RESOURCES, TRANSPORTATION AND INFRASTRUCTURE
AND
SUPERFUND, OCEAN AND WATER PROTECTION
JUNE 19, 1989
WORLD TRADE CENTER
NEW YORK CITY

GOOD AFTERNOON, I AM LANGDON MARSH, EXECUTIVE DEPUTY COMMISSIONER OF THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION. I APPRECIATE THIS OPPORTUNITY TO SPEAK ON BEHALF OF COMMISSIONER THOMAS C. JORLING ON OUR DEPARTMENT'S PROGRAM TO PREVENT BEACH POLLUTION AND FLOATABLE WASTE AND, IN THE FEW INSTANCES WHERE PREVENTION IS NOT POSSIBLE, TO ENSURE RAPID RESPONSE AND CLEANUP. I WILL ALSO COMMENT ON YOUR LEGISLATION, S.506, TO AUTHORIZE RECOVERY OF FLOATABLE DEBRIS UNDER THE AUSPICES OF THE NEW YORK HARBOR DRIFT REMOVAL PROGRAM CONDUCTED BY THE ARMY CORPS OF ENGINEERS.

OUR PREVENTION PROGRAM CENTERS ON THE SOURCES THAT WERE IDENTIFIED IN THE DEPARTMENT'S REPORT, INVESTIGATION: SOURCES OF BEACH WASHUPS IN 1988, A COPY OF WHICH I AM SUBMITTING FOR THE RECORD.

THE BULK OF MY TESTIMONY WILL BE DEVOTED TO A DESCRIPTION OF PROGRAMS DESIGNED TO CONTROL EACH OF THE SOURCES OF BEACH POLLUTION IDENTIFIED IN THIS REPORT.

(1) COMBINED SEWER OVERFLOWS:

A LIGHT RAINSTORM WHICH CAUSES A DOUBLING OF THE VOLUME OF DILUTED SEWAGE TO THE SEWAGE TREATMENT PLANT, OVERWHELMS ITS PHYSICAL CAPACITY TO HANDLE THE AMOUNT OF WASTEWATER AND, CONSEQUENTLY, DIVERTS COMBINED SEWAGE AND STORM WATER INTO RECEIVING WATERS BEFORE REACHING THE PLANT. IN NEW YORK CITY, THE AVERAGE VOLUME OF COMBINED SEWER OVERFLOWS ON A DAILY BASIS IS 170 M.G.D., COMPARED TO 1,800 M.G.D. TREATED SEWAGE. AMONG THE DEBRIS DISCHARGED WITH DIVERTED FLOWS ARE SYRINGES

ORIGINATING FROM THE 60,000 TO 112,000 TYPE I DIABETICS IN NEW YORK CITY WHO MUST INJECT THEMSELVES AT LEAST ONCE DAILY WITH INSULIN AND FROM THE LARGE NUMBER OF DRUG ADDICTS (ESTIMATED AT 100,000 TO 150,000.) [WE CONSERVATIVELY ESTIMATE THAT 60,000 TO 120,000 SYRINGES ARE PLACED DAILY IN THE SOLID WASTE STREAM OR ARE DISCHARGED THROUGH THE SEWERS (HOME TOILETS AND STREET CATCH BASINS.)]

THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION HAS LONG RECOGNIZED C.S.O.'S TO BE A MAJOR SOURCE OF USE IMPAIRMENT IN THE NEW YORK HARBOR AREA. IN 1982, OUR STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (S.P.D.E.S.) PERMITS REQUIRED THAT NEW YORK CITY INITIATE A C.S.O. ABATEMENT PROGRAM. THE CITY HAS DONE SO, COMMITTING $1.5 BILLION TO THE PROJECT IN ITS 10-YEAR CAPITAL BUDGET.

C.S.O. ABATEMENT IS A MAMMOTH TASK. THERE ARE OVER 430 OVERFLOW POINTS IN NEW YORK CITY ALONE, VARYING IN DIAMETER FROM A FEW INCHES TO TEN FEET AND DISCHARGING INTO A VARIETY OF TYPES OF RECEIVING WATERS.

SOLUTIONS CAN VARY FROM SCREENING AND CHLORINATION FOR SOME SMALLER OVERFLOWS, TO COMBINING OF OTHERS, TO CONSTRUCTION OF HOLDING TANKS.

OUR 1988 S.P.D.E.S. PERMITS UNDERSCORED AND MAINTAINED THE REQUIREMENT FOR THE C.S.O. ABATEMENT PROGRAM, BUT ALSO PUT IN PLACE A PHASED MORATORIUM ON NEW CONNECTIONS TO SEWAGE TREATMENT PLANTS WHICH ARE OVER CAPACITY. A MAJOR PURPOSE OF THIS

REQUIREMENT TO REDUCE FLOW TO STATED DESIGN CAPACITY IS TO MAINTAIN AS MUCH OVERFLOW CAPACITY AS POSSIBLE.

OUR S.P.D.E.S. PERMITS ARE ALSO INTENDED TO CONTROL FLOATABLE DEBRIS FROM SEWAGE BYPASSES AT TREATMENT PLANTS THAT RESULT FROM PLANNED AND UNPLANNED EVENTS. TO REDUCE THE PROBABILITY OF UNPLANNED BYPASSES, THE PERMITS REQUIRE THE CITY TO UNDERTAKE A FEASIBILITY STUDY OF INSTALLING STANDBY ELECTRIC GENERATORS WHERE THEY ARE NOT YET NOW AVAILABLE. THE CITY HAS DONE SO AND IS ATTEMPTING TO OBTAIN FUNDING FOR ACQUISITIONS. FURTHERMORE, ALL REPAIRS WHICH ARE RESPONSES TO BREAKDOWNS WHICH CAUSE BYPASSES, MUST BE PERFORMED ON A 24-HOUR/DAY, 7 DAY/WEEK BASIS.

THERE ARE OTHER ONGOING C.S.O. ABATEMENT INITIATIVES IN THE HARBOR. FOR EXAMPLE, CURRENTLY THE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION IS CONDUCTING A PILOT PROJECT USING DUNKERS. THESE CURTAINED BOOMS SURROUND THE OUTFALL AND ACT AS FLOATING IN-WATER HOLDING TANKS FOR OVERFLOWS, TRAPPING DILUTED SEWAGE WITH ITS FLOATABLE DEBRIS. THE DIFFICULT PROCESS WILL BE REMOVAL OF THE COLLECTED DEBRIS ON A TIMELY BASIS. THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION WILL BE MONITORING AND EVALUATING THIS PILOT PROJECT.

WE ARE AWARE THAT THE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION HAS SUBMITTED GRANT APPLICATIONS TO THE E.P.A. FOR PURCHASE OF A SKIMMER VESSEL AND FOR ADVANCED DUNKER TECHNOLOGY DEMONSTRATION PROJECTS (FOR EXPEDITED FLOATABLES REMOVAL.) WE SUPPORT THESE PROJECTS.

(2) SOLID WASTE HANDLING, PARTICULARY MARINE TRANSPORT

APPROXIMATELY HALF, OR 14,000 TONS, OF NEW YORK CITY'S MUNICIPAL SOLID WASTE IS TRANSPORTED BY BARGE TO THE FRESH KILLS LANDFILL.

AS A RESULT OF THE DEPARTMENT'S INVESTIGATIONS, WE HAVE TIGHTENED FURTHER THE PERMIT CONDITIONS AT THE FRESH KILLS LANDFILL UNLOADING AREA, REQUIRING THAT THE BARGES BE COVERED, AND THAT THERE BE BOOMS SURROUNDING THE TRANSFER STATIONS, WITH DIP NETS TO REMOVE ANY WASTE THAT DOES FALL INTO THE WATER DURING THESE TRUCK TO BARGE LOADING OPERATIONS. THESE PERMIT CONDITIONS ARE IN PLACE AND COMPLEMENT OTHER REQUIREMENTS (TRIPLE-BOOM SYSTEM, NEW HYDRAULIC CRANE, SKIMMER VESSELS, FOR EXAMPLE) THAT WERE IN PLACE PURSUANT TO PREVIOUS PERMIT CONDITIONS. IN ADDITION, NEW YORK STATE HAS BEGUN USING THE RESEARCH VESSEL CLEAN WATER AS A PLATFORM TO INSPECT SOLID WASTE FACILITIES FROM THE WATER SIDE (AS WELL AS TO SURVEY LONG ISLAND SOUND FOR FLOATABLE DEBRIS.) (NEW YORK, NEW JERSEY AND E.P.A. HAVE CO-FUNDED THE RESTORATION AND OPERATION OF THIS E.P.A. VESSEL.)

(3) MEDICAL WASTE HANDLING

ALTHOUGH THE TOTAL CONTRIBUTION OF MEDICAL-TYPE DEBRIS TO LAST SUMMER'S BEACH WASHUPS WAS RELATIVELY VERY SMALL (CONSTITUTING ONLY A FEW SHOPPING BAGS) THE DEPARTMENT AND OTHER STATE AND FEDERAL AGENCIES TOOK THIS PAST SUMMER'S CRISIS VERY SERIOUSLY. THE FOLLOWING MEASURES HAVE BEEN TAKEN:

THE GOVERNOR, THE LEGISLATURE, AND THE DEPARTMENT HAVE MOVED EXPEDITIOUSLY TO CREATE LAWS AND REGULATIONS THAT ARE INTENDED TO PREVENT WASHUP OF SPECIALLY-REGULATED MEDICAL WASTE. THE MAJOR ADDITION TO OUR REGULATIONS IS A MANIFEST SYSTEM, PREPARED IN COOPERATION WITH NEW JERSEY, REQUIRING ALL GENERATORS OF OVER 50 POUNDS PER MONTH OF INFECTIOUS WASTE TO COMPLETE A 4-PART MANIFEST SYSTEM TO TRACK THE DISPOSITION OF THE WASTE. NEW YORK STATE IS ALSO REQUIRING MEDICAL PROFESSIONALS WHO SELF-TRANSPORT IN QUANTITIES LESS THAN 50 POUNDS PER MONTH TO COMPLETE A TWO-PAGE MANIFEST.

THE GOVERNOR HAS ALSO PROPOSED LEGISLATION THIS YEAR WHICH CREATES A COMPREHENSIVE SYSTEM TO REGULATE AND TRACK MEDICAL WASTE PARALLEL WITH THE FEDERAL REGULATORY PROGRAM AND THEREBY CREATE UNIFORMITY OF REGULATORY REQUIREMENTS. THE CHANGES TO THE PRESENT STATE STATUTORY SCHEME INCLUDE: (1) EXPANDING THE CLASS OF REGULATED WASTE FROM "INFECTIOUS WASTE" TO "MEDICAL WASTE;" (2) MIRRORING THE FEDERAL DEFINITION, BUT AFTER 1992, FOLLOWING THE EXPIRATION OF THE FEDERAL PILOT PROGRAM, EXPANDING THE CATEGORY OF REGULATED MEDICAL WASTE TO INCLUDE ALL PATIENT AND LAB-CARE WASTE; (3) REQUIRING MORE STRINGENT REPORTING AND TRACKING OF MEDICAL WASTE, AND (4) PROVIDING MORE STRINGENT CRIMINAL PENALTIES FOR MISMANAGEMENT OF MEDICAL WASTE AND VIOLATIONS OF REGULATORY REQUIREMENTS.

FURTHERMORE, GOVERNOR CUOMO PROPOSED AND RECEIVED A $2 MILLION LEGISLATIVE APPROPRIATION FOR PURCHASE OF CLEANUP AND COMMUNICATIONS ENFORCEMENT EQUIPMENT, VESSELS, AND FOR INCREASED

STAFFING FOR ENHANCED ENFORCEMENT ACTIVITIES. WE HAVE ALSO TIGHTENED OUR RESPONSE NETWORK. BEACH OPERATORS WILL BE ABLE TO CONTACT DIRECTLY OUR ENVIRONMENTAL CONSERVATION OFFICERS IN THE EVENT OF DISCOVERY OF MATERIAL WITH EVIDENTIARY VALUE. ADDITIONALLY, YOU SHOULD BE AWARE THAT WHILE THE DEPARTMENT DID NOT IDENTIFY ILLEGAL WASTE DISPOSAL AS A SIGNIFICANT SOURCE OF BEACH WASHUPS, WE HAVE BEEN AWARE THAT SOME OF THE MEDICAL-TYPE DEBRIS, ESPECIALLY BLOOD VIALS, WERE THE RESULT OF DISPOSAL OF EVIDENTIARY MATERIAL BY OPERATORS OF FRAUDULENT MEDICARE/MEDICAID FACILITIES. INDEED, A FEW WEEKS AGO THE U. S. ATTORNEY FOR THE EASTERN DISTRICT OF NEW YORK ANNOUNCED AN INDICTMENT OF A NEW JERSEY RESIDENT FOR DUMPING 51 BLOOD VIALS INTO THE MARINE WATERS NEAR HIS RESIDENCE IN EDGEWATER.

(4) STREET, SHORELINE, AND WATERWAY LITTER

OUR PROGRAM FOR HANDLING THIS DEBRIS HAS A DOUBLE PURPOSE, DESIGNED TO BOTH CLEAN UP AND TO PREVENT FURTHER LITTERING THROUGH PUBLIC EDUCATION.

A. SHORE AND WATER CLEANUP

A MAJOR SOURCE OF DEBRIS IS REFLOATATION FROM BEACHES, MARSHES, AND SEA WALLS RESULTING FROM THE SUSPENSION OF DEBRIS BY HIGH TIDES AND AFTER HEAVY RAINS.

AN AMBITIOUS PLAN TO ADDRESS THE REFLOATABLES PROBLEM IS UNDERWAY IN NEW YORK HARBOR. PRISON LABOR IS BEING USED IN A PRE-SEASON CLEANUP OF THE SHORELINES OF NEW YORK CITY'S STATEN ISLAND AND ADJACENT SHORELINES IN NEW JERSEY. THE SLICKS THAT FORM IN THE HARBOR ARE BEING SCOOPED UP AT THE TIMES AND PLACES

WHERE THEY TEND TO FORM (HIGH TIDE, AFTER RAIN EVENTS AND AT THE CHOKE POINTS IN THE HARBORS) BY ARMY CORPS OF ENGINEERS' VESSELS FITTED WITH NETS PROVIDED BY THE STATES. IMPLEMENTATION OF THIS FLOATABLES ACTION PLAN AND THE CLEARING OF SLICKS INVOLVES THE VERY ACTIVE PARTICIPATION OF THREE FEDERAL AGENCIES, TWO STATE AGENCIES, AND ONE CITY AGENCY, AND IS ANTICIPATED TO COST THE AGENCIES A TOTAL OF APPROXIMATELY $1 MILLION.

MR. CHAIRMAN, YOUR LEGISLATION, S.506, WILL POSITIVELY CONTRIBUTE TO THIS EFFORT BY REQUIRING CORPS OF ENGINEERS VESSELS TO CONTINUE CLEANUP OF FLOATABLE DEBRIS IN THE HARBOR UNDER THE AUSPICES OF THE NEW YORK HARBOR DRIFT REMOVAL PROGRAM. AS I MENTIONED, THE NEW YORK CITY D.E.P. HAS APPLIED FOR FUNDS TO PURCHASE ITS OWN VESSEL SUITABLE FOR THESE PURPOSES. EVEN WITH THE ADDITION OF A CITY-OPERATED VESSEL, THE INVOLVEMENT OF THE CORPS OF ENGINEERS MAY BE REQUIRED IN THE FUTURE. YOUR BILL TO EXPLICITLY DIRECT SUCH INVOLVEMENT IS WELCOMED AND SUPPORTED BY THE DEPARTMENT.

B. EDUCATIONAL PROGRAMS

WE HAVE HAD AN EDUCATIONAL PROGRAM IN PLACE FOR THE PAST TWO YEARS, THE PURPOSE OF WHICH IS TO EDUCATE CITIZENS ABOUT THE SOURCES OF DEBRIS AND CITIZEN RESPONSIBILITY IN CONTROLLING LITTERING OF STREETS, BEACHES AND OUR WATER WAYS. THIS YEAR THE TREMENDOUS EFFORTS BY A VARIETY OF AGENCIES AND GROUPS WILL REINFORCE THIS MESSAGE.

IN PAST YEARS WE HAVE:

- DISTRIBUTED FLOATABLE MARINE DEBRIS NEWSLETTERS;

- PREPARED POSTERS WITH THE HELP OF, AND DIRECTED TOWARD, THE MARINA TRADES INDUSTRY;
- ORGANIZED TWO PROGRESSIVELY LARGER ANNUAL BEACH CLEANUP DAYS AND ARE PLANNING ANOTHER ONE FOR SEPTEMBER 24, 1989.
- PREPARED A BROCHURE ENTITLED, "IF YOU SEE IT, REPORT IT," OTHER WRITTEN MATERIALS; AND, FINALLY,
- CREATED A SMALL ADOPT-A-BEACH PROGRAM.

TO THESE EFFORTS HAVE NOW BEEN ADDED THE COORDINATED EFFORTS OF OTHER STATE AGENCIES, SUCH AS THE STATE DEPARTMENT OF HEALTH WHICH HAS ISSUED A GUIDANCE TO THE PUBLIC AND UNDERTAKEN A NUMBER OF OTHER ACTIVITIES IN CONJUNCTION WITH D.E.C. THE STATE UNIVERSITY AT STONY BROOK MARINE SCIENCE RESEARCH CENTER'S COAST INSTITUTE IS PREPARING PUBLIC EDUCATION MATERIALS WITH A $100,000 GRANT FROM THE NEW YORK STATE URBAN DEVELOPMENT CORPORATION. THE N.Y.S. WATER POLLUTION CONTROL FEDERATION'S LONG ISLAND SECTION HAS PREPARED EDUCATIONAL MATERIALS. THE NEW YORK STATE MARINE SCIENCE EDUCATION ASSOCIATION FEATURED THE SUBJECT OF MARINE DEBRIS AT ITS ANNUAL SEMINAR, AND E.P.A.'S FLOATABLES WORK GROUP IS ALSO DEVELOPING EDUCATION MATERIALS.

C. RESPONSE PROGRAM

WE RECOGNIZE THAT WE WILL NOT WHOLLY PREVENT ALL BEACH DEBRIS, PARTICULARLY THAT INVOLVING SYRINGES FLUSHED INTO THE SEWERS BY HOME USERS. A FEW SYRINGES HAD ALREADY BEEN OBSERVED ON THE BEACHES BEFORE THE OFFICIAL START OF THE SUMMER OF 1989, AND UNFORTUNATELY, UNTIL USERS OF SUCH SYRINGES TAKE ALTERNATE DISPOSAL STEPS, SUCH SPOTTINGS WILL CONTINUE. WHAT WE HAVE DONE

IS TO WORK WITH RELEVANT AGENCIES TO DEVELOP APPROPRIATE RESPONSE MEASURES

WE HAVE DEVELOPED GUIDELINES FOR BEACH OPERATORS, WITH THE OPERATORS' INPUT, WHICH GIVE GUIDANCE ON IDENTIFICATION OF MEDICAL-TYPE DEBRIS (AND IDENTIFICATION OF WHAT IS NOT MEDICAL-TYPE DEBRIS, BUT PHYSICALLY RESEMBLES IT); ON WHOM TO CALL; ON WHAT CRITERIA TO FOLLOW FOR BEACH CLOSURE AND REOPENING; PROCEDURES TO FOLLOW FOR HANDLING AND DISPOSAL OF DEBRIS; AND NUMBERS WHERE ENVIRONMENTAL CONSERVATION OFFICERS CAN BE REACHED WHEN MATERIAL WITH EVIDENTIARY VALUE IS DISCOVERED.

THE BEACH INFORMATION NETWORK DEVELOPED BY THE LONG ISLAND REGION OF STATE OFFICE OF PARKS, RECREATION, AND HISTORIC PRESERVATION WILL PROVIDE FOR NOTIFICATION TO ADJACENT BEACHES IN THE EVENT OF WASHUPS OR CLOSURES. IN ADDITION, THE BEACH INFORMATION NETWORK WILL BE TIED INTO THE E.P.A. SURVEILLANCE NETWORK IN THE EVENT THAT SLICKS WHICH COULD POTENTIALLY IMPACT THE BEACHES ARE OBSERVED BY HELICOPTER OR THROUGH OTHER SURVEILLANCE.

MOST IMPORTANTLY, THE BEACH INFORMATION NETWORK FEEDS INFORMATION ABOUT BEACH CLOSURES, IF ANY, TO THE DEPARTMENT OF ECONOMIC DEVELOPMENT. RESIDENTS AND TOURISTS CAN CALL 1-800-CALL NYS TO FIND OUT BEACH CONDITIONS. WE BELIEVE THIS WILL COUNTER THE UNCERTAINTY THAT WAS A SIGNIFICANT CAUSE FOR THE DECLINE IN BEACH ATTENDANCE LAST SUMMER.

IN CONCLUSION WE HAVE DESCRIBED OUR FLOATABLE DEBRIS PREVENTION AND RESPONSE PROGRAM AND HAVE INDICATED WHERE WE BELIEVE THERE IS NEED FOR FURTHER ACTION--PARTICULARLY IN C.S.O. ABATEMENT SHORT-TERM AND LONG-TERM PROJECTS.

THANK YOU FOR THIS OPPORTUNITY TO SPEAK WITH YOU. I WOULD BE GLAD TO RESPOND TO ANY QUESTIONS.

Department of Environmental Conservation

NEW YORK STATE
DEC REPORT

Investigation:
Sources of Beach Washups in 1988

December 1988

New York State Department of Environmental Conservation
MARIO M. CUOMO, *Governor* THOMAS C. JORLING, *Commissioner*

EXECUTIVE SUMMARY

This report summarizes the investigation into the sources of the debris that washed up on New York shores commencing on 6 July 1988 and intermittently recurring to date.

The debris that washed up on New York beaches consisted of "floatables." Floatables are solid wastes that float or remain suspended in the water column.[1] The recent washups of floatables included household garbage, wood, and miscellaneous debris. Between 1% - 10% of the debris consisted of syringes, blood vials and other "medical-related waste" which may pose an additional human health risk if stepped on at the beach.[2]

The Department's investigators have come to the same basic conclusions as investigators of previous major beach washups, most notably the 1987 and 1976 washups:

1. With a few exceptions, the floatables that washed up on the New York beaches cannot be tied to any specific source.

2. While the extent to which any particular source contributed to specific floatables strandings is not clear, nevertheless, the significant sources appear to be:

    - the Fresh Kills landfill (including the barges that transport garbage to the landfill)

- the marine transfer stations
- combined sewer overflows (CSO's)
- raw sewage discharges
- stormwater outlets

3. Other activities that are likely to be less significant sources include:

   - beach use
   - recreational boating
   - commercial shipping

4. Significant refloating occurs of stranded materials

See generally the New Jersey Floatables Study attached as Appendix 1 at p. 42. A final possible source, particularly for the blood vials, is the illegal disposal of debris directly into the water, or in a manner that makes it possible for storms, tides or other mechanisms to carry the debris into the water.

In determining the sources of floatables, the focus was on the unusual, large amounts of floatables strandings that closed the beaches. Some floatables wash up every day.[3] It is likely that waste from beach use and CSO's are the major sources of this everyday litter.[4]

Determining the sources of the beach washups proved to be an extremely difficult task for three reasons. First, the vast majority of the debris lacked specific features that would have made it easily traceable. Studies of previous washups, including the sizable floatable washups that caused beach closings in New Jersey in 1987 and New York in 1976, and other studies of the 1988 washups, uniformly concluded that identifying the sources for this debris was difficult due to the absence of specific features that distinguished one source of floatables from all other possible sources.[5]

Second, each possible source "can contribute essentially the same kinds of objects", because floatables from one source are often intermingled with floatables from another source.[6] In fact, floatables from sewage treatment plant screens such as syringes, and floatables cleaned up at the beaches, are taken to a landfill where they can again escape into the water.[7]

Finally, determining the sources of the washups was further hampered by the multitude of agencies involved, each with its own set of priorities. To properly collect identifiable evidence and follow it to its generator required the Department to deal with Town, City, County, State, and Federal agencies. This appreciably slowed down the investigation.

Despite these hurdles, we are confident that our investigation of the beach debris has been thorough and has enabled us to identify the general sources of this debris. With a few exceptions, however, we have not been able to trace specific debris to specific sources. This report describes our investigation of the beach washups. Sections I - II provide, respectively, general background information developed during the investigation concerning (1) a chronology of the beach closings and an inventory of the contents of the washups (Section I); and (2) weather conditions that contributed to moving the floatables from where they originated to the beaches where they washed up (Section II).

Section III analyzes the likely sources of the debris, based on the factors discussed in Sections I - II (i.e., the location of the washups, the types of materials that washed up, and weather conditions), as well as our source-specific investigative efforts.

I. CHRONOLOGY OF BEACH CLOSINGS AND COMPOSITION OF WASHUPS

While the washups first affected Nassau and Suffolk Counties, the bulk of the washups throughout the summer occurred in New York City, namely Queens, Kings, and Richmond Counties. The most seriously impacted beaches were in Richmond County (Borough of Staten Island). Table 1 contains a partial chronology of the beach closings.[8]

TABLE 1

SUMMARY OF BEACH CLOSINGS

COUNTY	BEACH	DATES
LONG ISLAND		
Nassau	Nassau	7/6-7/7
	Long	7/6 (7/29 high bacteria)
	Jones	7/6, 7/8
	Lido	7/6
	Oyster Bay Town	7/7-7/8
	Gilgo	7/8
Suffolk	Robert Moses State Park	7/6-7/8
	Fire Island	7/7-7/8
	Babylon Town	7/8-7/10
	Smith Point State Park	7/10
	Quogue	7/23-7/27 (high bacteria)
	Shirley	7/29 (high bacteria)
NEW YORK CITY		
Queens	Rockaway	7/8, 7/26-28
	Jacob Riis Park	7/17-7/20
	Atlantic	7/17 (7/29 high bacteria)
Kings	Coney Island	7/12-7/13 (7/17 high bacteria)
	Brighton	7/12-7/13
	Manhattan	7/12-7/13
Richmond (Staten Island)	South	7/11 to close of season (9/3)
	Midland	7/10-8/18
	Great Kills	7/13-7/28, (8/9 high bacteria)
	Miller Field	7/13-7/25, (8/9 high bacteria)

The media emphasis on medical-related waste created a misleading impression concerning the composition of the washups. Medical-related waste did wash up on the beaches; most estimates, however, are that it comprised less than 10% of the debris. Thomas Doheny, Director of Conservation for the Town of Hempstead (Nassau, Lido and Long Beaches), estimated that the medical-related waste was less than 1% of the total debris,[9] or approximately a lunch bag of medical related waste for every two truck loads (5-yard size) of garbage that washed ashore.[10] Ronald F. Foley, Regional Director of New York State Parks/Long Island Region (Jones Beach and Robert Moses State Park), estimated that the medical related waste was less than 1% of the debris that washed ashore.[11] James Reinhardt, Regional Director, National Park Service, Queens and Kings Counties (Great Kills, Miller Field, Riis Park, Breezy Point Beaches), stated it was a small percentage (probably less than 10%) of what comes in with the tide.[12] Cordell Schachter, Operations Coordinator, City of New York Parks and Recreation Department, refused to estimate, stating: "A small percentage. But you have to look at the garbage that washed up and compare yourself."[13] Philip F. Sparacio, New York City Administrative Manager, Parks and Recreation at Rockaway Beach, commenting about the July 26 washup, stated that there was "much more garbage than medical waste."[14] A Sergeant Castillo of the Sea Gate Beach Police Department in Brooklyn had the highest estimate, that 10 to 15% of the washups consisted of medical-related waste. The rest was "floatable garbage".[15]

The washups consisted primarily of the same type of debris found in the historical washups mentioned above. The debris included grease balls, fat balls (aggregations of grease-like or oil-like substances from various sources produced by physiochemical processes),[16] pieces of paper, fireworks, cigarette butts, popsicle holders, food (vegetables, meat, bread debris), tampon inserters, condoms, plastic truck seals, crack vials, plastic shopping bags, garbage bags, Q-tips, straws, and wood.[17] The medical-related waste found in the washups consisted primarily of disposable (also known as insulin-type) syringes. Such syringes are sold by pharmacies in case loads to diabetics. There are between 60,000 and 112,000 Type One diabetics who must inject themselves at least daily with insulin. (See Section III.A., below). The most common instruction provided to the user for the disposal of such syringes is to bend the needle and put it into the trash.[18] An inventory[19] of the medical waste-related items received by the Department between 6 July 1988 and 3 August 1988 contained 120 syringes, 17 syringe covers, 18 pill bottles, 11 blood vials, one empty dosette sodium chloride bottle, one empty insulin bottle, and one plastic seal which has been identified as a New York City Health and Hospital Corporation seal for securing its laundry trucks.[20]

The medical-related items secured by the New York City Department of Sanitation (DOS) from New York City beaches include a larger variety and larger quantity of medical-related items than those found on Long Island. In addition to the items mentioned above, surgical gloves, clamps, Intravenous (IV) tops, IV bottles, IV tubing and bags were included. However, insulin-type syringes were clearly predominant in the City washups as well. The exact numbers are unavailable.[21] An inventory was received from DOS and is included in the Appendix, but the description of items inventoried is somewhat misleading, since they were made by various sources without adequate coordination of descriptions or background expertise.[22]

The widespread media attention and increased public awareness caused many household trash items to be mistakenly identified as medical-related waste. For example, clear cigar holders were reported as blood vials, animal fat and parts became human organs, household rubber gloves became surgical gloves, etc. A typical example of this problem can be found in Figure 1, a Newsday article that appeared on 27 July 1988. The article leads the reader to believe that hundreds of syringes, hundreds of blood vials, 9 shaved laboratory rats, human organs and other medical waste washed ashore at Rockaway Beaches without any other debris. In fact, 125 insulin syringes, no blood vials, 26 sewer rats[23] (9 of which had loss of hair caused by decomposition and sewer scraping) and animal intestines[24] did wash ashore together with tampon inserters, fat balls, condoms, etc. The amount of medical-related waste was extremely small compared to the amount of garbage.[25]

Most experts and investigators agree that if the wastes emanated from a hospital, a larger variety and quantity of infectious and non-infectious wastes would have washed up -- specifically more syringes of different sizes, bloody bandages, bed sheets, and more surgical gowns and gloves.[26] Floatables apparently make up a larger percentage of medical waste -- i.e., waste emanating from a health care facility and/or a doctor's office -- than is the case for household trash.[27] Therefore, an appreciably smaller amount of medical waste would have had to be mixed with household trash to equal the amounts found in the 1988 washups.

The ratio of medical-related waste to non-medical-related waste in historical washups is one of debate. In many respects, this is the baseline year for determining in a systematic way the types of debris that have washed up on our beaches. Mr. Doheny claims the ratio of medical-related waste to non-medical-related waste found in the July washups was not uncommon.[28] Mr. Sparacio claimed the 26 July 1988 washup percentage was unusual, although it was not uncommon for some medical-related waste to be found in daily washups.[29] All beach adminhistrators interviewed stated that debris washes ashore every day and has to be removed. According to the Staten Island lifeguards and residents interviewed, washups of medical-related waste are a regular occurrence and have been so historically.[30] The beach observers on Sheffield Island, Connecticut claim that it is not unusual to have syringes washing up. This was simply the first time anyone ever focused attention on it.[31] Apparently it is the total amount of debris, its persistence, and media attention that led to the beach closings. Recognizing that fact, beach officials have begun to reconsider when a washup should close a beach.[32]

COMPOSITION OF WASHUPS CONCLUSION

The beach washups of 1988 consisted primarily of garbage slick floatables, not unlike previously documented washups. Medical-related waste comprised a very small percentage of each washup. Insulin-type disposable syringes were by far the largest single medical-related floatable.

II. THE ROLE OF CURRENTS AND WINDS

We worked with several experts to determine what role, if any, weather conditions (including winds and currents) played in the recent washups.[33] The consensus of the experts is that floatables that were present this summer in the New York Bight would have moved east and north toward Long Island, due to the influence of a persistent south-southwesterly wind (Figure 5). Floatables present this summer in the Hudson/Raritan estuary would have moved toward New York City beaches (Figure 6). Finally, absent a persistent wind (i.e., the conditions that prevailed pre-July 1988 -- the persistent south-southwesterly winds did not occur until July), floatables present this summer in the Arthur Kill, Hudson River, and East River would have moved south into the Hudson/Raritan Estuary and then into the New York Bight.

As stated above, floatables have been subject to a number of studies. These studies have concluded that those beaches closest to the floatable sources are more likely to experience floatable strandings.[34] For short distances, floatables are transported by local tidal currents; but long term movement of floatables is primarily a result of surface winds, not water currents.[35]

Floatables in the vicinity of New York City and the southern portion of Long Island - namely the Hudson/Raritan Estuary and the New York Bight - are affected by tidal currents, the Hudson River, and surface winds.[36] Figures 3 and 4 depict the tidal currents in the Hudson/Raritan Estuary.[37] The net flow from the Hudson/Raritan Estuary is into the New York Bight, bending south and westward toward New Jersey[38] (with some variation).[39]

As depicted in Figures 3 and 4, the net flow of floatables in the Hudson River, East River and the Arthur Kill would be south into the southern portion of the

Hudson/Raritan Estuary (i.e., the lower New York Bay and Raritan Bay). As discussed further in this report, the beaches bordering the Arthur Kill are the most seriously impacted with floatables. The USEPA Report on Floatables of March, 1988 (at pp. i, 5, and 8) concluded the Fresh Kills landfill is a major or significant source of floatables found on the beaches along the Arthur Kill. Since the net flow of the Arthur Kill is south into Raritan Bay, the logical conclusion is that a portion of the floatables reaching the Arthur Kill will be carried into Raritan Bay.[39A] EPA's report reaches this conclusion, stating that materials from the Arthur Kill will wash up on the southern tip of Staten Island, the shorelines of Raritan Bay or will be transported to the ocean (i.e., the New York Bight). See EPA Floatables Investigation at 4. See also New Jersey Floatables Study at p. 42.

The Hudson River winter runoff peaks at Green Island, New York, near Albany, between March and May and reaches the New York Harbor area in approximately one month. This May-June peak of Hudson River water creates a head of water not only in the river system but also in the sewer system.[40] Thus an appreciable percentage of floatables released into the waters of the Hudson/Raritan Estuary will find their way into the New York Bight.[41] Indeed, studies have shown the Hudson/Raritan Estuary is the most significant source of wastes into the Bight.[42]

Once floatables reach the Bight, the wind currents are their primary source of movement.[43] In general, the prevailing winds in winter in the Bight area are westerly to northwesterly (i.e., from the west or from the northwest). In the summer, the prevailing winds in the Bight area are southwest to south.[44] North to northeast wind-driven currents of the New York Bight are depicted in Figure 5. Because they are variable, the winds usually shift floatables about in no particular direction. Major floatable washups occur when one wind direction persists over an extended period of time.[45] Figure 2 depicts the wind directions during the month preceding the 1988 washups. The winds are first directed south, or out into the Bight, then from the southwest or toward New York shores. The winds from the south-southwest persisted over an extended period of time, thus causing the floatables in the water to wash up on New York shores. Such persistent winds "organize" the debris as well as direct it. As depicted in Figure 5, floatables in the Bight will move east toward Long Island when a south-southwesterly wind predominates. Under the same conditions, in Figure 6, floatables in the Hudson/Raritan estuary will move toward New York City beaches.

In June 1976, a major floatable washup occurred on Long Island when south-southwesterly winds predominated from 6 June to 21 June.[46] Figure 7 depicts the zone of floatables influenced by the south-southwesterly winds in 1976.[47] In 1976, the sources of the washups were attributed to particular incidents in and around New York City.[48] Figure 9 depicts the beaches closed and indicates the sources of the washup in 1976.[49] Figure 8 depicts the beaches closed in 1988. The similarity between the 1976 and 1988 wind conditions cannot be ignored; the persistence of south-southwesterly winds and the beaches closed are also similar. Accordingly, one would expect that the geographic origins of the floatables would be similar.

An examination of the winds between 1 June 1988 and 10 July 1988 indicates a predominating south-southwesterly wind in the latter portion of that period. In Figure 10, the floatables movement from the apex of the Bight, based upon wind direction, is depicted for that period.[50] The 1988 floatables fall within the same movement pattern projected in 1976, moving from the apex of the Bight eastward to the Long Island beaches.[51] This connection between the 1976 and 1988 washups is supported by the information generated from tracing the identifiable washed-up debris. While the amount of identifiable debris was limited, the vast majority of such debris that washed up has been traced back to New York City.[52] In one case, the debris was traced back to where it was place in the water. In mid-June, Herminio Rodrogues accidentally dropped a prescription bottle into the East River in Manhattan, near 92nd Street. The bottle washed up on Lido Beach on 6 July 1988.[53]

A general study conducted by the State of Rhode Island attempted to hindcast the origins of debris washing up on its shores. It concluded the probable source was the apex of the New York Bight.[54] Articles found on Rhode Island beaches were traced back to Manhattan and Brooklyn, New York.[55] A piece of cloth was traced to Presbyterian Hospital in Manhattan, and a prescription bottle was traced to a Brooklyn nurse who had discarded it into the trash while she was at work at Kings County Hospital. A similar hindcast made for Long Island beaches reaches the same conclusion. This hindcast, prepared by Dr. Levine of NOAA at DEC's request, concludes that if floatables were present in the mouth of Raritan Bay on 6 June 1988, they would have washed up in July 1988 on the beaches from Atlantic Beach to Fire Island (i.e., the approximately 30 miles of beach that were closed in July 1988).

CONCLUSION OF CURRENTS AND WINDS

Floatables are primarily found close to their sources. For short distances, the movement of floatables is influenced by tidal currents; for long distances, such movement is influenced primarily by the wind with influence of river flows and oceanic currents. In New York, floatables generally move from the New York Harbor into the New York Bight. Once in the Bight, floatables are subject to winds and currents. Major washups of floatables occur when winds from one direction predominate. In July 1988, predominating south-southwesterly winds caused floatables to wash up much as they did in 1976. The 1988 floatables can be traced, as in 1976, to Raritan Bay and the Lower New York Bay, i.e., the southern part of the Hudson/Raritan Estuary.

III. SOURCES OF THE 1988 WASHUPS

As stated above, the majority of floatables probably washed up on the beaches closest to where the floatables originated. Based upon the beach closings, New York City's beaches were the most seriously impacted by floatables in 1988. Staten Island beaches were subject to the longest period of washups, and Brooklyn beaches were next. This would appear to identify Staten Island, and the southern and western portions of Brooklyn as the major areas where the floatables entered the water. Our investigation supports this premise. The primary sources, we believe, are located in these areas.

The USEPA March 1988 study of floatables concluded that major slicks are formed when floatables from several other sources combine with floatables from storm water runoff.[56]

Our investigation has reached the same conclusion in that no one source can be considered the exclusive source for the washups of 1988. However, as the EPA study also concluded and as New Jersey determined as well, some sources can be considered more significant than others. The more significant sources are probably the Fresh Kills landfill (including the barges that transport garbage to the landfill), the marine transfer stations, combined sewer overflows, raw sewage discharges, and stormwater outlets.

A. Fresh Kills Landfill

The Fresh Kills landfill appears to be a source of some of the debris that washed up on New York beaches, including medical-related waste, based on the following three-step analysis: 1) debris brought to the landfill (including medical-related waste) fell into the water, despite continuing efforts to prevent this from happening (including several significant steps New York City has instituted since the initiation of this investigation); 2) some of the debris that fell into the water escaped from the Fresh Kills area into the Arthur Kill despite the systems to recover such debris from the water; and 3) some of the debris that escaped into the Arthur Kill was carried to the New York beaches. The other studies of beach washups have similarly concluded that Fresh Kills is a source of floatables. See e.g., EPA March 1988 Study at 1 and 15 (the "Fresh Kills Landfill is a significant point source of floatables... It is our opinion that the landfill and barging operations at Fresh Kills Landfill are a major source of floatables...");[56A] New Jersey Floatables Study at 42 ("marine transfer stations (including the Fresh Kills landfill) all contribute to materials on beaches...[and]

are suspected to contribute relatively large amounts of floatables"). As these studies also point out, however, "[t]he extent to which any of these sources (including Fresh Kills) contributes to the general level of refuse or to specific floatables strandings is not clear." New Jersey Floatables Study at p.42.

1. Fresh Kills Contains Medical-Related Waste

A large volume of medical-related waste is generated in New York City every day. New York City has 75 hospitals with a total of 35,000 beds. Assuming 100% occupancy, 315 tons of waste would be generated per day, of which 53 tons would be infectious waste.[57] Doctors' offices, laboratories, nursing homes, and clinics generate medical-related waste, as do drug users and out-patients such as diabetics.

It is evident from the investigations conducted that some of this medical-related waste is being placed into the solid waste stream of New York City. Hospitals are sometimes negligent in sorting their waste; doctors, laboratories, nursing homes, and clinics sometimes negligently mix medical-related waste with trash; intentional dumping of regulated medical waste occurs to avoid the expense of disposal; and out-patients like diabetics and other intravenous users dispose of their waste in the trash.

As an example, it is clear that some hospitals do not always comply with New York City Local Law 57, which requires that infectious and non-infectious medical waste be removed from the New York City solid waste stream. DOS investigators have conservatively estimated that one-third of all the garbage trucks picking up trash from hospitals also carry regulated medical waste, such as syringes, which the hospitals have improperly mixed with trash. This estimate is based upon reports of DOS investigators who stopped trucks and inspected their loads.[58] Since 1985, over 50 New York City hospitals have been fined - many more than once - for not properly removing their medical-related waste from the solid waste stream.[59] Since media attention has focused on medical waste, the press has reported almost weekly that hospitals, clinics and doctors are being caught placing regulated medical waste in the regular garbage.[60] Many are not being caught.[61] Obviously some of the medical-related waste that is not discovered reaches the Marine Transfer Stations (MTSs) and Fresh Kills landfill as part of the solid waste stream. Thus, when trash spills into the water at Fresh Kills or the MTSs, some of that trash may be medical-related waste.

As stated above, NYCDEP acknowledges placing syringes into the solid waste stream. Their procedures for removing floatables from sewage treatment plants alone place between 25,000 and 36,000 syringes per year into the solid waste stream.[62] The primary source of these syringes appears to be diabetics who inject themselves with insulin. It is estimated that New York City has between 60,000 and 112,000 Type One diabetics who must inject themselves at least daily with insulin.[63] The insulin syringe is used once and then discarded in either the trash or the toilet. Therefore, a minimum of between 60,000 to 112,000 syringes per day are placed in the solid waste stream or are discharged through the sewers.

Another indication that medical-related waste reaches Fresh Kills is that during the investigation, tugboat operators stated that red- and blue-bagged "medical wastes" were observed on the barges being brought to the Fresh Kills landfill. One tugboat captain interviewed specifically recalled seeing syringes on many of the barges he transferred to the landfill.[64] Furthermore, at the West End Mooring Rack of the Fresh Kills landfill there is a section that is referred to as the hospital wastes mooring.[65] Barges containing hospital wastes are segregated from other garbage barges.[66] In some cases the barges are marked with paint.[67] According to DOS procedures,[68] these barges can only be unloaded by the electric crane (unfortunately this crane is inefficient and it allows debris to escape when it digs close to the coaming.[69] In addition, the DOS employees hose down the equipment and barges, thus washing any left over hospital wastes into the water).[70] The hospital waste contents of the barges are either unloaded onto trucks and taken back to the Southwest incinerator or, in at least one situation, may have been buried at the landfill.[71]

In contrast to this substantial evidence that medical-related waste is present at the landfill, the facts to the contrary are limited. DOS has claimed that it is rare that such wastes reach the Fresh Kills landfill.[72] In addition, the monitors from Han-Padron Associates and Baker Engineering indicate they never saw syringes or blood vials at the Fresh Kills landfill.[73] Han-Padron was hired by the City to independently monitor operations at the Fresh Kills landfill and the MTSs, pursuant to a Consent Order in a federal court action in New Jersey entitled Town of Woodbridge v. City of New York. Baker Engineering is the monitor hired by the State of New Jersey to monitor the City's compliance with the Woodbridge Order. Most of the monitors claim that they have never gotten close enough to see what hospital waste consisted of. However, those who have gotten close claim they are unable to distinguish hospital waste from other garbage.[74]

Our conclusion, despite this equivocal evidence, is that the weight of the evidence strongly suggests that medical-related wastes reach the landfill on a regular basis. In addition to the facts set forth above, we have evidence that medical-related waste has been picked up by the skimmer boats,[75] found in the booms,[76] deposited on the beaches inside and outside the booms, including on the Isle of Meadows, and found in the waters in close proximity to the landfill outside of the booms.[77] Finally, numerous traceable medical-related waste items that washed up in 1988 were initially disposed of "in the trash".[78]

2. Garbage From Fresh Kills Escapes Into the Water

Garbage from Fresh Kills escapes into the water in a variety of ways. Barges loaded with garbage are brought to the Fresh Kills landfill where they enter a boom-lock system and are unloaded. The offloading of the barges results in spillage into the water. Han-Padron Associates staff have observed the presence of overloaded buckets and debris falling into the water and have reported considerable debris in the water occurring during approximately one-third of their observations.[79] At times the debris has been described as "slicks" which contain debris-filled garbage bags.[80]

The amount of subsurface debris also cannot be underestimated. As indicated in the Han-Padron Associates Report for 16 May to 31 May, 1988, skimmer boats have to be dry docked periodically to clear away debris caught in their propellers.[81] BECI investigators observing the Fresh Kills landfill by boat have also noted considerable debris at least six feet deep in the channel.[82] This subsurface floatable debris can escape and eventually reach the beaches, as discussed below.

Finally, as noted above, waste (including medical-related waste) has been picked up by the skimmer boats, found in the booms and deposited on the beaches inside and outside of the booms.

3. Some Of The Debris That Falls Into The Water Escapes The Landfill Booms/Collection Systems

The landfill operation uses a boom/skimmer boat approach to prevent waste from escaping the landfill area and to remove any waste that falls into the water. There are three locks (or booms) in operation at the landfill: the main boom which stretches across the inlet leading to the unloading pads; the range boom which is approximately half the distance between the main and third booms and stretches across the Isle of Meadows (an island located directly across from the landfill) and the Fresh Kills landfill; and the third boom which is across the mouth of the channel that leads to the Arthur Kill between the Fresh Kills landfill and the Isle of Meadows. The three booms are fitted with skirts to catch debris floating both on the water surface and below it. There is also a permanent boom across the northern channel of the Fresh Kills landfill and the Isle of Meadows.

A tugboat propelling garbage-laden barges is supposed to enter the first lock only after a skimmer boat has removed the floating debris from the surrounding water. The third boom is supposed to be closed behind the barge before the range boom is opened. The main boom should be opened after the range boom is closed, and the main boom should be closed before the barges are unloaded. At least three skimmer boats should be in operation at all times. Unloading should consist of mooring the barges within one foot or less of the unloading pad bulkhead. A gangplank should be placed between the barge and bulkhead, and a crane should scoop the debris out of the barges onto Athey wagons which are subsequently unloaded at the appropriate place in the landfill. If any debris escapes the crane, it should fall onto the barge, gangplank, or unloading pit. Very little, if any, floatables are supposed to escape from the landfill.

The evidence substantiates that this system has not succeeded in preventing garbage from escaping the Fresh Kills area. Until approximately mid-May, only two booms were in operation -- the main boom and the range boom.[83] (The range boom was located in a slightly different location prior to the addition of the third boom and a 15-foot skirt was added to the new range boom about the same time the third boom was installed).[84] The booms are often left open without coordination with tugboat movement. Figure 11, Graph 7 depicts when the booms were left open on the outgoing tide, based upon the observations of the Han-Padron monitors.[85] At best, the lock system worked, if at all, between the third and range booms in June 1988 (the month preceding the washups).[86]

This graph is actually optimistic in depicting compliance. On many occasions when the booms were reported as closed, they were damaged, had gaps in the floatation sections or were improperly moored, thus leaving gaps between the bulkheads and the boom.[87] Floatables could escape the booms even though the booms were "closed" at those times. Han-Padron's Bernard Lubetkin indicated that the monitors were at the Fresh Kill landfill for 9 out of 45 shifts. The shifts are of 8 hours duration.[88] Random observations by Department personnel indicate that the booms are left open an even higher percentage of time than is depicted in the graphs. For example, a Department boat passing the Fresh Kills landfill on 11 July 1988 observed the third boom in the open position without tugboat activity. At that time, a syringe and rubber glove were recovered from the water outside the boom area.[89] On 25 July 1988, a Department boat went past the Fresh Kills landfill. The third boom was closed. A gap of approximately ten feet was observed in the boom. Also there was a floatation section which was apparently damaged and temporarily repaired with a yellow floatation section in front of it that left a gap between the two sections.[90] On 5 and 6 August 1988, BECI investigators observed gaps in the third boom.[91] A photograph depicting a typical gap is in the Appendix. On 11 August 1988, BECI investigators observed gaps in the range boom while the main boom, which was in need of repair, was open without tugboat movement.[92] The boom did not prevent floatables from escaping on 4 of the 6 occasions that Department investigators observed the third boom during the investigation period.[93] In addition, on the two occasions that the investigators observed the main boom, it was open.[94] Nor do the booms prevent suspended materials deeper than the skirts from reaching the Arthur Kill.

The opening and closing of the booms also permits the escape of floatables. Skimmer boats which pick up water-borne debris do not always operate in front of and/or alongside the booms before opening.[95] Booms are occasionally opened the wrong way, thus releasing floatables trapped by the booms.[96] The boom skirts are apparently never cleaned or repaired.[97] Invariably the submerged debris trapped by the skirts is moved by the opening of the booms towards the shoreline where it will escape if the booms are improperly moored. Assuming the floatation sections of the boom are damaged from time to time by tugboats or runaway barges,[98] one could safely expect the skirt to also be in need of occasional repair. Surprisingly, none of the monitors were aware of repairs made to the boom skirt.[99]

Figure 11 also depicts the percentage of times that the skimmer boats were operating in compliance with the Woodbridge Order on Consent. Again this is an optimistic estimate based merely upon when the monitors saw a skimmer boat moving in the water. Observations by monitors of the skimmer boats indicate that the boats were often operated at high speeds and were driven in an erratic fashion.[100] This appears to have an impact on the effectiveness of skimming, driving floatables to the subsurface rather than removing them from the water.[101] There are other problems: for example, the skimmer boat is in the water but does not operate until the monitor appears dockside,[102] or the skimmer boat operator watches television on the boat rather than looking for floating debris.[103]

In short, the boom/skimmer boat system (as well as dip nets Fresh Kills personnel use to scoop out debris from the water) is designed to ensure that any garbage material that spills into the water does not escape the Fresh Kills area, but instead is removed. The evidence is substantial that this system does not always work as intended, and that floatables escape from the area at Fresh Kills. While for the most part, the Han-Padron monitors have not made observations beyond the last boom area,[104] New Jersey monitors and employees have seen considerable debris beyond the third boom and in the Arthur Kill.[105] As noted above, EPA observers similarly have concluded that garbage spilling from the barges that transport garbage to Fresh Kills and garbage escaping from Fresh Kills are a significant source of floatables. EPA Floatables Investigation at i, 5 and 8.

4. Some of the Debris That Escaped Fresh Kills Probably Washed Up On New York Beaches

In June 1988, Michael Coscia, a DEC Region Two employee assigned to monitor the Fresh Kills landfill, walked the Staten Island beaches along the Arthur Kill, from the south, leading to the landfill. As he approached the landfill, the count of floatables per 100 feet increased. The floatables on the beaches closest to the landfill were too numerous to count.[106] As mentioned previously, floatables tend to impact beaches closest to their source, and once on the beaches can be refloated. Based upon that fact, it is logical to conclude that the landfill is a significant source of floatables in the Arthur Kill.

In June 1988, the New Jersey Attorney General's Office (NJAG) instructed its investigators to examine the Isle of

Meadows. The Isle of Meadows has the beaches closest to the Fresh Kills offloading operations located outside the third boom. If debris were escaping the Fresh Kills Landfill boom system, the Isle of Meadows beaches would be the most severely impacted. New Jersey personnel videotaped their visit.[107] The tape includes a walk of the Isle of Meadows beaches outside of the boom system, and shows that these beaches are littered with debris. New Jersey investigators interviewed the contractors hired by the New York City Department of Sanitation to clean the beaches. The contractors displayed numerous medical-related floatables they had found on the beaches, including a bucket full of syringes. At this time, the permanent boom was examined. Prescription bottles and syringes were found in the boom grating. When this videotape was mentioned to the Department of Sanitation personnel, their response was that the debris could have been there from 8 years ago. They contended that it did not get there after Local Law 57 was enacted to regulate medical waste (in 1985).[108]

In addition, parts of the Isle of Meadows beaches are located inside the Fresh Kills Landfill's boom system. Accordingly, comparisons can be made as to how effectively the boom system is operated. If it were being operated correctly, one could expect the beaches inside the boom system to be impacted more than the beaches outside the boom system. On 5 August 1988, BECI investigators went to the Isle of Meadows. As the investigators travelled to the Isle of Meadows by boat, they recovered a syringe found floating in the water.[109] Upon landing on the Isle of Meadows, the investigators walked the beaches on both sides of the third boom. They saw floatables, including numerous medical-related items such as syringes, IV bottles, tubing, etc., covering the beaches on both sides and they removed many of these items. There was no appreciable difference in the amount of debris observed on the beaches inside the booms compared to the beaches outside the booms.

On 6 August 1988, BECI investigators returned to the Isle of Meadows. On the beaches outside the third boom, they found numerous floatables, including syringes and other medical-related items, in the areas where they had removed such items the day before. For example, a monoject blood vial containing blood was found washing ashore.[110]

In addition, to determine conclusively whether DOS's theory was correct that prescription bottles, etc. must have washed up before Local law 57, the BECI officers searched for dated materials. This search yielded numerous prescription bottles with issue dates from March 1988 through July 1988 indicating that the materials were discarded in the past six months. A number of these bottles were then traced back to individuals who claimed they had discarded the bottles in the trash.[111] In short, the presence of such bottles on the Isle of Meadows beaches, along with a huge volume of other garbage, establishes that such garbage escapes the Fresh Kills system. Moreover, virtually every type of floatable found in the garbage slicks that washed up on the beaches in 1988 was found on the Isle of Meadows.

Most of the washed up beach debris that could be traced originated in New York City. Prescription bottles with patients' names were traced to the disposer. Such evidence, while episodic, reveals a general pattern. For example, a percentage of prescription bottles can be traced to people who allowed them to fall while boating or who left them at the beach. A larger percentage of disposers interviewed indicated that they simply threw the bottles into the trash.[112] Rhode Island officials traced the only two identifiable prescription bottles back to Brooklyn where they had been disposed of in the trash.[113]

Other materials found in the washups, such as food debris, chicken bones in plastic garbage bags, milk cartons, work gloves, carpenter masks, and plastic bags of all sizes,[114] which conceivably could be found in storm drain discharges, are more typically disposed of as household trash.

As discussed above, our knowledge of currents in the Arthur Kill indicates that some of the Fresh Kills floatables would be carried into Raritan Bay and the lower bay of the New York harbor as the net flow depicted in Figures 3 and 4 indicate, and then onto the beaches.

Since the Fresh Kills landfill is a constant source of floatables, the question arose whether one particular incident during operations at the landfill could result in the release of an unusually large amount of medical-related floatables. As explained above, the question of medical-related waste can sometimes be confusing because of the terminology used.[115] We know that medical-related waste does reach the landfill and that some of it, like other floatable wastes, escapes from the landfill. In addition, medical-related wastes in general contain a higher percentage of floatables than do household wastes.[116] Therefore, in comparison with household trash, a proportionately smaller amount of medical waste would need to have been disposed of to result in the ratio found in the 1988 washups. It is also known from statements made by monitors from the Han-Padron Associates, and Baker Engineering that between 21 and 26 "Hospital Wastes" barges were consolidated and off-loaded at Fresh Kills between 22 May 1988 and 6 June 1988.

At the Department's request the National Oceanographic and Atmospheric Administration (NOAA) conducted a hindcast from the first washup period in July. Figure 14 is the result of that hindcast, which used wind direction and velocity every hour during the period involved. It indicates that if floatables were in the mouth of Raritan Bay near the lower New York Bay area on 6 June 1988, they would wash up from Atlantic Beach to Fire Island in July 1988, or approximately along the 30 miles of beach that were closed in July 1988.

B. SEWAGE DISCHARGES

New York's sewers are supposed to operate as follows: most sewage generated in New York City travels by sewer to one of the 14 water pollution control plants. There are three types of sewers: sanitary sewers which carry household and industrial waste, storm sewers which carry rain and surface water runoff and combined sewers which carry both waste and water runoff.[117]

There are over 540 combined sewer overflow points within the New York City sewer system. Approximately 70% to 80% of all New York City sewers are the combined type.[118] During periods of rainfall greater than .25 inches per day, treatment plants are by-passed and sewage is discharged directly into the New York Harbor complex. Figure 12 depicts the New York City drainage areas and locations of the 14 sewage treatment plants. When operating properly, a sewage treatment plant removes pollutants from wastewater. After screens remove floatables, the wastewater is subjected to biological treatment and disinfection. Floatables removed from the screens are collected and transported to the Fresh Kills landfill. The effluent is then discharged into the waters of the State. Sludge produced by these processes currently is disposed of at sea (106 miles offshore). Approximately 1.7 billion gallons of sewage per day are presently treated by New York City.[119]

As noted above, rainfall of .25 inches, or at times less, causes the New York City sewage treatment plants to be bypassed.[120] When a bypass occurs, any floatables which would have been screened out of the sewage are discharged into the New York Harbor complex. This is in addition to the approximately 6.8 million gallons of untreated sewage discharged into the New York Harbor complex every day under dry weather conditions.[121] When a treatment plant fails or malfunctions, there is no backup system. On such occasions, raw sewage is often discharged directly into the water. (Temporary storage in the sewage collection systems can sometimes be used to contain the flow during brief breakdowns until repairs are made.)

An examination of the reported sewage treatment failures in the weeks preceding the washup period of 6 July to 10 July 1988 indicates that on 24 June and 25 June 1988, the Bowery Bay Water Pollution Control Plant broke down, causing a bypass. The problems were not corrected until 26

June 1988. On 28 June 1988, the Port Richmond sewage treatment plant experienced a breakdown for part of the day. A bypass of the Bowery Bay Water Pollution Control Plant and the Port Richmond sewage treatment plant would be expected to release floatables. As explained below, these floatables would include: plastic tampon inserters, condoms, plastic straws, forks, spoons, insulin-type syringes, dead sewer rats, popsicle holders and wood. These types of materials washed up on Long Island Beaches within weeks of the Bowery Bay Water Pollution Control Plant outage and the Port Richmond Plant outage. This correlates with the known facts concerning the winds and currents. While floatables can remain in the water any length of time, a general washup of floatables occurs within two to three weeks of their release.[122]

Rainstorms also occurred at the end of June after a relatively dry period.[123] This phenomenon flushed out floatable material which had collected in the stormdrains.

On or about 12 July 1988, a severe rainstorm caused a power outage on Staten Island. As a result, the Port Richmond sewage treatment plant experienced a 24 hour plant failure. On 15 July 1988, New York City beaches in Staten Island, Brooklyn, and Queens experienced large washups of floatables. This pattern is consistent with the winds and currents depicted in Figure 6. The plant bypasses caused floatables to enter the Hudson-Raritan Estuary where wind currents control their dispersal, as previously described. The washups, which lasted for several days, consisted primarily of plastic floatables such as tampon inserters, eating utensils, straws, etc., and approximately

300 insulin-type syringes. The washed-up floatables were mixed with, and smelled of, fecal matter.[124] In addition, the DOS compared the grit found on some of the syringes that washed up with the grit found on CSO screens and claimed they matched.[125]

On 25 July 1988, a Department boat went to two CSO outlets located off the Brooklyn shoreline. It had rained the previous day. Long slicks of floatables one to two feet in width were observed emanating from the area near the outlets. The floatables consisted of condoms, plastic straws, tampon inserters, wood, dead rats, prescription bottles, plastic eating utensils, and other miscellaneous floatables.[126] On 1 August 1988, BECI officers inspected the floatables screens at Oakwood Beach Sewage Treatment Plant. They observed tampon applicators, condoms, etc., being removed from the wastewater. No medical-related waste was observed.[127] BECI did, however, discover that the New York City Department of Environmental Protection (NYCDEP) was reviewing all of the City's sewage treatment plants for the presence of medical-related waste. Figure 13 is from a report received from NYCDEP. Using the data in this report, one could estimate that the treatment plants would remove 25,000 syringes per year (see also the discussion below and on page 17, which suggests that up to 36,000 syringes are removed per year). These syringes, together with the other floatables removed, are taken to the Fresh Kills landfill by the New York City Department of Sanitation.[128] Figure 13 shows the number of syringes found after examining only a sampling of the skimmings and screenings on two days in July 1988. The actual total is unknown. NYCDEP estimates that 198 syringes per day are removed by the sewage treatment screens.[129] This would mean that approximately 36,000 syringes per year are removed from the sewage treatment plants and sent to the Fresh Kills landfill. In August, Newsday reported that 50,000 syringes are removed each year from the sewage treatment plants.[130] In September, the DOS found 300 syringes in a storm drain basin in Manhattan, apparently dumped there to avoid disposal costs. This clearly indicates that syringes constitute a portion of the floatables released by sewage discharges. Because, as noted above, captured sewage treatment plant floatables are sent to the Fresh Kills landfill, it is difficult to quantify what portion of the 1988 floatables washup came from the landfill system and what portion came from the sewage discharges. However, sewage discharges could be a significant source of syringes in the 1988 washups.

A smaller but similar problem of washups occurred in Maryland. It was the conclusion of the Maryland Attorney General that the sources of the syringes in the washups were small household generators whose syringes found their way into the sewage discharges in Baltimore.[131]

C. MARINE TRANSFER STATIONS (MTS)

There are nine municipal marine transfer stations run by DOS in New York City; eight are currently in operation.[132] There is one privately owned MTS. The New York City Department of Sanitation (DOS) provides off-loading service from truck to barge for both DOS and private carters at the MTS. The barges are supposed to be loaded in a systematic fashion so as to avoid spillage, and the barges are supposed to be loaded to a maximum height of 8 feet above the barge coaming (i.e., side walls) to avoid spillage while the barges are in motion. In addition, DOS is supposed to use overhead sprinklers, dip nets and booms to minimize spillage. Tugboats take 2 to 4 barges to the Fresh Kills landfill where they are offloaded. Approximately 14,000 tons of garbage per day are taken by barge to the Fresh Kills landfill.[133]

In fact, spillage to water occurs during the loading of barges. The loading process creates an updraft which releases lighter articles of garbage into the air. Eventually they fall into the water.[134] Overloading of barges is another cause of spillage. Interviews with DOS employees indicate that it was common, until the middle of July 1988, for barges to be loaded to capacity, thus causing debris to fall into the water.[135] The monitors of Han-Padron Associates noted that the overloading of barges occurred during about 10% of their observations. Graph 5 in Figure 15 is based upon their observations.[136] However, Graph 6 of Figure 15 indicates that spillage was observed as often as 80% of the time. It appears that loading practices commonly cause some spillage at the MTS. Overloading, however, causes major spills.[137]

Once garbage enters the water at the MTS's, it is not likely to be removed. The water sprinkler systems are rarely operational and when they are, they are rarely effective. Dip nets simply are not used on a regular basis. Figure 16 indicates the small percentage of time that the spray system and dip nets were used at the MTSs. The only boom is located at the MTS next to the Southwest incinerator, and this boom is ineffective. Materials collected by the boom are not removed and the boom is opened from dockside thus releasing anything captured.[138] In short, garbage indisputably spills into the water at the MTSs and is not removed. In fact, independent monitors as well as BECI investigators have observed currents carrying debris out of the loading slips and into the New York Harbor complex.[139]

Debris is blown off the barges by the winds and dislodged by the movement of the tugboats[140] while barges are being taken to the Fresh Kills landfill. The amounts released in this fashion are in dispute. DOS conducted a study which indicated that only minor amounts of debris are released.[141] However, New Jersey monitors, who followed the barges being towed, disagree with that characterization. They estimate that three to four tons of debris are lost each month by barges in transport.[142] In either case, debris falling from barges has been observed and documented. The Appendix contains photographs of barges in transport. Debris can be seen flying off the barges. In some cases whole bags of garbage were released.[143]

Cleaning the barges is another source of spillage. Periodically, each barge is removed from service and cleaned.[144] During use, a layer of debris left at the bottom of the barge serves as a cushion for loading and off-loading.[145] When a barge is cleaned, the floor is swept clean and hosed down. At least until recently it has been the practice to release the debris-laden waste cleaning water directly into the water surrounding the barges.[146]

The operations of the MTSs are clearly a source of floatables in the water. Since the floatables found at the Fresh Kills landfill and the sewage discharges can be found at the MTSs and on the barges, it is difficult to determine the exact percentage of the 1988 washup that came from MTS spillage.

D. PLEASURE AND COMMERCIAL BOATS

Another source of floatables for the washups of 1988 is waste disposal from commercial vessels. However, very little of the identifiable waste from the 1988 washups has been traced to boaters.[147]

In 1987, approximately 5,000-6,000 vessels over 1600 gross tonnage arrived at the Port of New York. Little data are known about the sewage, garbage and refuse generated by commercial vessels. There have been two incidents in other states where beach closings were caused by commercial and military shipping debris. In North Carolina, United States Navy vessels discharged debris off-shore, which caused approximately 50 miles of beach to close. In Florida, a cruise ship was found partially responsible for the closing of Florida beaches this summer because it disposed of its wastes too close to shore. In both cases medical-related waste was involved. However, there was other debris that identified the vessels involved.

It is illegal to dispose of these wastes in New York coastal waters; and there is little evidence to indicate that this was a major source of floatables for the washup of 1988. For example, firework debris, syringes, crack vials, tampon inserters, condoms and shopping bags, while they can conceivably be found on ships, would not be expected to be found in the amounts or proportions that washed up. Truck seals and waste disposed of "in the trash" point away from the ships completely.[149] Inevitably some waste from boaters will escape into the water. When the wind and currents are right, floatables from ships will wash ashore.[150]

The United States Coast Guard (USCG) estimates that over 500,000 pleasure boats can be found in New York waters, and each boater produces approximately 1-1/2 pounds of garbage each day on the water.[148] Inevitably some of this waste will be tossed overboard.

Sludge dumping by barges was also examined. The USEPA claims to have made several unannounced inspections of the New York City sewage treatment sludge barges. It could not find any evidence of floatables in the sludge.[151] In addition, the question of "short dumping" (i.e. dumping less than the required 106 miles off shore) was investigated. While there have been many rumors of fishermen observing such instances, none was substantiated.[152] The USEPA and USCG claim that no reports of short dumping have been made in the last two years.[153]

The USEPA has announced the commencement of a "black box" program which went into effect in October 1988. A tracking instrument in a black box will be contained on each barge used for dumping at sea. As a result, the USEPA claims that it will know within a day if a barge engages in short dumping.[154]

E. ILLEGAL DISPOSAL

The benefits of the illegal disposal of regulated medical waste are obvious. It costs between 32 cents and 50 cents per pound or 5 to 6 dollars a bag to dispose of regulated medical waste.[155] (As discussed above, regulated medical waste comprised only a small percentage of the 1988 washups).[156] It costs about 5 cents a pound to dispose of garbage.[157]

It is apparent that regulated medical waste is being illegally disposed of on land. Recent newspaper articles described a number of instances of illegal disposal of medical-related waste, and of attempts to do so that were thwarted.[158] In 1985, the Department obtained its first felony indictment of an infectious waste carter.[159] This involved placing red bagged infectious waste into black garbage bags. The bags were then placed in trash containers which were transported by unsuspecting carters to the local landfills. The same criminal behavior pattern was uncovered in subsequent investigations.[160]

Very few incidents investigated to date involve the possibility of regulated medical waste being dumped into the water. Those that did involved minor amounts,[161] with the exception of two incidents that may be related. First, approximately 136 blood vials were found in Bayonne, New Jersey in May 1988. Initially, New Jersey officials believed the Bayonne case was "a plant".[162] That is, the blood vials were probably placed into the water to draw attention to another local issue such as the permitting of a local pharmaceutical plant. New Jersey officials are reconsidering the Bayonne situation in light of a confession they recently obtained in connection with the disposal of blood vials on the banks of the Hudson.

In September, approximately 290 blood vials were found on the New Jersey Hudson River shoreline and rocks near the Palisades. These vials were traced to Plaza Health Laboratories, Inc., in Brooklyn, New York. The Vice President of Plaza, Geronomo Velagas, confessed that he disposed of hundreds of blood vials on the banks of the Hudson near the Palisades between June 18-24, 1988. An inspection of Plaza's records indicates that Plaza has not used a permitted transporter for disposal of blood vials during the past six months. Based upon the winds and currents, if this is true, Plaza could be a source for some of the vials that washed up this summer. New Jersey is pursuing a criminal investigation of this incident.

Blood vials are the one type of debris for which there may have been a greater incentive to dispose illegally, compared to previous years. Hundreds of blood vials are generated by laboratories. In April 1988, several thousand were dumped in a clothing drop in Suffolk County.[163] They were traced back to a laboratory in Queens County. Certainly, from what is known about the New York State Attorney General Medicaid Fraud investigation, there was an incentive for certain laboratories to dispose of their blood vials in the spring of 1988.[164] Fewer than two dozen were recovered by Department investigators.

The exact number of blood vials recovered by DOS is difficult to determine, because we got different estimates from different DOS investigators. Apparently fewer than 50 washed ashore.[165] All the blood vials recovered by DEC were manufactured by a company called Monoject, Inc. and are the smaller, lighter type vial. DOS apparently recovered the same type.[166] Monoject claims it sells millions of this type of vial to New York City distributors every year.[167] Without further identification marks, the vials are untraceable.

We investigated whether the vials washing up on Long Island shores were related to the Bayonne washup (specifically, whether some of the vials disposed of in Bayonne waters drifted eastward instead of with the majority, reaching New York shores instead of New Jersey). However, when the vials found on Long Island were compared with those found in Bayonne, they did not match. The Bayonne vials were considerably larger and were manufactured by Turemo and Corner.[168] The Bayonne vials, however, could match the vials that were found on the banks of the Hudson near the Palisades.

As mentioned above, a Monoject blood vial (filled) was found washing ashore at the Isle of Meadows.[169] If thousands of blood vials were disposed of into the trash by laboratories in the spring and early summer of 1988, it is conceivable that some would escape the booms at the Fresh Kills landfill. Monoject vials, which are smaller and lighter than other vials, would be more likely than other vials to escape with other floatables into the Hudson/Raritan Estuary. In addition, blood vials were found in the New Jersey washups of 1987[170] which New Jersey has attributed to the New York City solid waste system.

Other incidents of indirect dumping of regulated medical wastes into New York waters have been uncovered. For example, over 300 insulin-type syringes were found in a storm drain in Manhattan in September 1988.[171] Bags of laboratory wastes, including blood vials, have been found above the shorelines in New York and New Jersey.[172]

According to the New York Times, there are over 250,000 intravenous drug addicts in New York City. Traditionally, drug addicts do not dispose of their syringes until they are inoperable. However, possession of drug paraphernalia is illegal, and conceivably these syringes will be discarded when an addict is confronted with law enforcement personnel. The most logical disposal point on the street is the storm drain. One can expect some disposal into the water from CSOs that are connected to the storm drains. The same logic would apply to drug users who frequent the beaches at night. The most obvious manner of disposal is to drop the syringes on the beach. From the beach, the syringes can either enter the water or be collected with washed up materials the following morning. However, it is doubtful that such an activity can be expected to account for the pattern of syringes actually found.

In summary, based on the Department's own experiences and the experiences of other agencies, it is clear that medical-related waste has been disposed of illegally into the garbage and into the sewers. It is likely that medical-related waste from these two sources contributed to the beach debris. It is also possible that some of the medical-related waste that washed up on New York beaches this summer stems from illegal disposal directly into the water.

F. REFLOATATION OF STRANDED DEBRIS

According to the USEPA Floatables Investigation Report dated March 16, 1988, some stranded floatables are resuspended by the subsequent high tides ("refloatables"). The majority of stranded floatables are pushed further up the beach with each high tide. Unless removed, exceptionally high tides created by heavy rains and the lunar cycle will resuspend a high percentage of previously stranded floatables. The beaches along the Arthur Kill, Staten Island, Newark Bay, Raritan Bay, Hakensack and Passaic Rivers appear to be prime sources for refloatables in the New York Harbor complex.

As previously indicated, some medical waste has been found above the tide line on various beaches. It is conceivable that during lunar high water tide periods, medical-related and other waste left in such fashion could be resuspended and removed. In the same way, the medical waste observed at the Isle of Meadows could be resuspended and redistributed to other New York beaches.

IV. CONCLUSIONS

The Fresh Kills landfill, sewage discharges, CSO's, and MTSs are probably the primary sources of the 1988 beach washups. Other sources contributed floatables as well. Winds and currents directed the floatables from New York Harbor onto the beaches of Long Island and New York City.

Regulated medical waste in particular, and medical-related waste in general, accounted for only a small percentage of the washups. The media's emphasis on medical-related waste caused confusion and overreaction.

With the possible exception of blood vials, the 1988 beach washups are primarily a result of two factors: the improper control of the New York City solid waste stream and the weather conditions. Accordingly, if no changes occur in the City's handling of its solid waste, it can be expected that given the same weather conditions, washups will occur again.

REFERENCES

EXECUTIVE SUMMARY

1. "New Jersey Floatables Study: Possible Sources, Transport, and Beach Survey Results", November 1987, p. 1. This study is attached as Appendix 1 to this report.

2. This report uses the term "medical-related waste" to describe both infectious and non-infectious waste that has been generated by medical/health care facilities and washed up on New York beaches in 1988. This report uses the term regulated medical waste to describe both infectious and non-infectious waste that is subject to state or local regulation. A wide variety of terms is used to describe this waste, including the following: (1) "infectious waste" is a term defined by ECL Section 27-0501; (2) "red bag waste" is a term used by the medical/health care industry to describe infectious waste; (3) "medical waste" is a media term used to describe the infectious and non-infectious waste that washed up on the beaches in 1988 (medical waste has since been adopted by the State legislature and DEC to represent non-infectious waste and by the U.S. Congress to represent all medical waste); (4) "hospital waste" is a term used by NYC DOS for any waste emanating from a medical facility, including a doctor's office; (5) "blue bag waste" is a term used by DOS to describe medical waste emanating from nursing homes; and (6) "non-infectious medical waste" is a term used to describe non-infectious waste generated by New York City hospitals, which is generally taken to the Southwest Incinerator in Brooklyn for incineration. For the sake of simplicity, this report generally refers to waste encompassed by any of these terms as "medical-related waste."

   See the discussion in Section II below for a comparison of the amount of medical-related waste to the amount of other waste that washed up on beaches this summer. Concerning the possible risks associated with medical-related waste, see New York Post, 9 August 1988, "Girl Steps on Needle at Beach;" Newsday, 11 July 1988, "Danger Called Remote;" and New York Post, 14 July 1988, "Don't Go Near the Water."

3. New Jersey spends approximately 3 million dollars each year on beach cleanups; New Jersey Floatables Study, Ibid., p. 6. The Town of Hempstead has kept a log of daily beach washups since 1973--Thomas Doheny, Town of Hempstead Commissioner. New York City has machines specially designed for beach cleaning of washups, which are used daily--Philip F. Sparacio, New York City Administrative Manager, Parks and Recreation.

4. Report of the Interagency Task Force on Persistent Marine Debris, May 1988, p. 37 to the end.

5. These studies of beach washups and their possible sources were undertaken by Federal, State, and private entities. In addition to the New Jersey report referenced above, several of these studies are attached in the Appendix including: (1) EPA's March 16, 1988 Floatables Investigation (Appendix 2); (2) the July 27, 1988 Report prepared for Rhode Island entitled Hindcast of Medical Waste Trajectories in Southern New England Waters (Appendix 3); (3) the State of Connecticut's report (Appendix 4); (4) the September 9, 1988 Congressional Research Service report (Appendix 5); and (5) 2 reports on the 1976 washup co-authored by Professor Lawrence Swanson (Appendices 6 and 7). We also reviewed a study by Gunnerson of MIT done in 1983, and a floatables projection prepared at our request by Dr. Levine of NOAA, and we consulted numerous other experts including EPA personnel, the Coast Guard, and officials from other states that encountered similar problems such as Maryland, Massachusetts, and Florida. We have requested a study conducted for NYC DOS involving trawling of the Arthur Kill but have not yet received a copy.

6. New Jersey Floatables Study, Ibid., p. 2. In addition, some floatables become "refloatables" by washing up on one beach and then being swept by the tide, winds and currents onto another. See e.g., EPA's Floatables Investigation at 5. Another possible source is illegal disposal of dredging spoils.

7. Newsday, August 1988. Thomas Burke, New York City Department of Investigations, September 1988. BECI Investigation of NYC Sewage Discharges Report by Inv. John Brois, N.Y.S. D.E.C., B.E.C.I., August 1988.

I. CHRONOLOGY OF BEACH CLOSINGS AND COMPOSITION OF THE WASHUPS

8. See also Figure 8. The information in this section of the report comes primarily from newspaper articles, DEC visits to various beaches, and DEC discussions with other governmental personnel.

9. Interview of Thomas Doheny 8/5/88 by Inv. Kenneth Cole, N.Y.S. D.E.C., B.E.C.I.

10. Interview of Thomas Doheny 7/15/88 by Rocky Piaggione, Esq., N.Y.S. D.E.C., D.E.E.

11. Interview of Ronald F. Foley 8/5/88 by Inv. Kenneth Cole.

12. Interview of James Reinhardt 8/5/88 by Rocky Piaggione, Esq.

13. Interview of Cordell Schachter 8/5/88 by Inv. Kenneth Cole.

14. Interview of Philip F. Sparacio 7/27/88 by Inv. John Harmke.

15. Interview of Sergeant Castillo 7/22/88 by Inv. John Brois.

16. "Long Island Beach Pollution: June 1976," Ibid., p. 6.

17. Interview of Thomas Doheny 7/15/88, Ibid; Ronald Foley 8/5/88, Ibid; James Reinhardt 8/5/88, Ibid; Cordell Schachter 8/5/88, Ibid; Philip F. Sparacio 7/27/88, Ibid.

18. Interview with the National Juvenile Diabetes Association 8/5/88, Ibid; Interview with The American Diabetic Association 8/4/88.

19. Inventory by Lt. William Bubineck, N.Y.S. D.E.C., B.E.C.I. This inventory is in the Appendix. Since the date of the inventory more materials were collected. A total of approximately 300 syringes were collected from Federal and Long Island beaches. New York City collected approximately 3,000 syringes.

20. Report by Inv. Ernest Tobin dated 7/12/88. Meeting with New York City Health and Hospitals Corporation, Administrator John Cherish on 7/11/88.

21. Periodic examinations of medical- related wastes retained by DOS by Inv. Ernest Tobin, Inv. James Masuicca, and Inv. Henry Ashton.

22. For example, the inventory of the 26 July 1988 Rockaway Beach washup in the Appendix describes laboratory rats and human intestines, etc., all of which were later refuted by the New York City Coroner's Office. (Dr. Beverly Leffers). In addition, the inventory fails to identify the size of the syringes in DOS's possession.

23. Reports by Investigators John Brois, John Harmke, and John Mattera, N.Y.S. D.E.C., B.E.C.I., July 1988 to August 1988. Interview and Report of Philip F. Sparacio by Inv. John Harmke, dated 7/27/88.

24. Interview of Dr. Beverly Leffers by Inv. Kenneth Cole, August 1988.

25. Interview and Report of Philip F. Sparacio, dated July 27, 1988.

26. William J. Muszynski, Deputy Regional Administrator, USEPA, New York Times, 7/9/88 p. 30. NYC Commissioner of Health, Dr. Stephen Joseph, N.Y. Times 7/11/88, A1, B2 characterized it as part of the ecology of a heavily populated area.

27. Interview of Professor R.L. Swanson, SUNY at Stony Brook by Lt. Dorothy Thumm, N.Y.S. D.E.C., B.E.C.I., dated August 10, 1988.

28. Interview of Thomas Doheny, August 1988, Ibid.

29. Interview of Philip Sparacio, dated July 27, 1988, Ibid.

30. Interview of Staten Island Lifeguards by Inv. John Brois, August 1988; interview of R.L. Swanson, dated August 10, 1988; interview of Susan Shore, EPA employee and former Staten Island resident. See also footnote 3.

31. Interview with Edward Levine, September 28, 1988.

32. Newsday "Beach Garbage Bingo: Officials Lack Guidelines in Deciding When to Close", August 7, 1988.

II. THE ROLE OF CURRENTS AND WINDS

33. For example, we worked with R.L. Swanson, SUNY at Stony Brook, and Edward Levine, N.O.A.A. We also reviewed reports prepared by other experts, including the Rhode Island Study in the Appendix.

34. See e.g., "New Jersey Floatables Study," November 1987, Ibid., p. 24.

35. Long distance transport is affected by large scale current systems resulting from Hudson River discharge, patterns of wind direction and velocity and offshore circulation. "New Jersey Floatables Study," November 1987, Ibid., p. 21; "Hindcast of Medical Waste Trajectories in Southern New England Waters," by M. Spauling, et al, July 27, 1988 at pp. 23, 25; Long Island Beach Pollution - June, 1976, p. 9 to the end.

36. June 1976 Pollution of Long Island Ocean Beaches, Ibid. Waste Disposal in the New York Metropolitan Area, A Case Study, C.G. Gunnerson, 1983, M.I.T. Technical Report M.I.T. SG 83-33, Cambridge, MA.

37. "New Jersey Floatables Study," November 1987, Ibid., pp. 22 and 23.

38. "Long Island Beach Pollution: June 1976", Ibid. Waste Disposal in the New York Metropolitan Area, A Case Study, Ibid., p. 1070. Mueller, J.A., et al., 1976. Contaminant Inputs to the New York Bight. N.O.A.A. Tech. Memo. ERL MESA-6 Boulder, CO: U.S. Department of Commerce.

39. Interview with R.L. Swanson, 10 August 1988.

39A. The USEPA examined other possible sources along the New Jersey side of the Arthur Kill and dismissed them as not being significant sources of floatables. EPA Floatables Investigation at 6. Nevertheless, it is certainly likely that at least some of the floatables are from such other sources.
See footnote 56A, which discusses EPA's conclusions concerning Fresh Kills' role as a source for the beach washups.

40. June 1976 Pollution of Long Island Ocean Beaches, Ibid.

41. June 1976 Pollution of Long Island Ocean Beaches, Ibid. Gunnerson, Ibid.

42. Interview with R.L. Swanson, 10 August 1988.

43. June 1976 Pollution of Long Island Ocean Beaches, Ibid. p. 1077.

44. June 1976 Pollution of Long Island Ocean Beaches, Ibid., p. 1077. Interview with R.L. Swanson, 10 August 1988.

45. Interview with R.L. Swanson, 10 August 1988.

46. June 1976 Pollution of Long Island Ocean Beaches, Ibid. p. 1077.

47. Long Island Beach Pollution: June 1976, Ibid.

48. June 1976 Pollution of Long Island Ocean Beaches, Ibid.

49. Long Island Beach Pollution: June 1976, Ibid.

50. Prepared by R.L. Swanson and given to the Department, 10 August, 1988.

51. Interview with R.L. Swanson, 10 August 1988. The Hindcast prepared by N.O.A.A., September 1988, using wind data every hour between 26 May 1988 and 10 July 1988, supports this as well.

52. See various B.E.C.I. reports, which indicate that approximately 90% of traceable materials were New York City generated.

53. Interview of Hermino Rodriguez by Inv. Ernest Tobin, 15 July 1988.

54. Hindcast of Medical Waste Trajectories in Southern New England Waters, Ibid. p. 6.

55. Rhode Island Attorney General's Office.

III. Sources of the 1988 Washups

56. Floatables Investigation, U.S.E.P.A., March 16, 1988.

56A. The U.S.E.P.A. March 1988 Report states that the Fresh Kills landfill is not the major source of floatables in the New York Harbor complex. Because the Report also states that the landfill is a major source of floatables in the Arthur Kill, Rocky Piaggione discussed this issue with one of the Report's co-authors, Regina Mulcahy. Ms. Mulcahy indicated that what was meant by the former statement was that while Fresh Kills was a source of the washups, it was not the sole source. She further indicated that the original draft indicated that Fresh Kills was the major source of beach washups in 1987. Because it was impossible to quantify how many floatables came from any particular source, in its final report the EPA decided to qualify its conclusion as to Fresh Kills' role.

57. Thomas Burke, N.Y.C. D.O.I., 8 September 1988. The Greater New York Hospital Association indicates that in New York City there are 71 voluntary hospitals, 11 city hospitals, and 10 proprietor hospitals.

58. Interviews of D.O.S. employees by Investigators John Brois and Henry Ashton, August 1988, and see Footnote 167.

59. Article in New York Post, 2 August 1988.

60. See e.g., New York Daily News: "Man Arrested in Dumping of Medical Trash", 12 August 1988; Newsday: "Medical Waste Found at Dump Traced to Firm", 16 August 1988.

61. For example, WOR TV observed syringes near the MTS at the Southwest Brooklyn incinerator, which were traced back to Caledonia Hospital, August 1988. (See Footnote 58).

62. Thomas Burke, N.Y.C. D.O.I., 8 September 1988. See Appendix, Inventory of syringes found in sewage treatment plants 8/1/88 from Edward Wagner. See text at page 31.

63. Interview of Alexandra Alvereno, American Disbetes Association, 29 July 1988, by John Harmke of BECI. Regina Morris, NYC DOS statement during recent meeting with DEC officials.

64. Interview of Tugboat Captains By Inv. Kenneth Cole, 12 September 1988.

65. Interview of Han Padron Associates, 29 August 1988.

66. Interview of Han Padron Associates, 29 August 1988.

67. Interview of Baker/TSA, Inc., 24 August 1988.

68. Interview of Baker/TSA, Inc., 24 August 1988.

69. Interview of Han Padron Associates, 29 August 1988.

70. Interview of Baker/TSA, Inc., 24 August 1988.

71. That trucks with medical waste are brought back to the Southwest incinerator from Fresh Kills landfill is substantiated by Inv. John Brois' interviews of incinerator employees on 16 August 1988. That medical waste is buried at the Fresh Kills landfill is supported by Han-Padron Associates' Monitoring Report of 13 August 1988, as well as the other facts referenced in this report.

72. Rocky Piaggione interview of John Rowell, D.O.S., July 1988.

73. Interview of Han-Padron Associates on 29 August 1988. Interview of Baker/TSA, Inc., on 24 August 1988.

74. Interview of Han-Padron Associates on 29 August 1988. Interview of Baker/TSA, Inc., on 24 August 1988. What constitutes "hospital wastes" is unclear. DOS management claims that anything from a hospital, including stationary, is considered hospital waste by DOS employees. It is misleading, therefore, to think that hospital waste only means regulated medical waste.

75. Investigator John Harmke's inspection of floatables picked up by skimmer boat on 11 August 1988.

76. New Jersey Attorney General's videotape 18 June 1988.

77. Inspections of 5 and 6 August 1988 by Investigators John Brois and John Harmke.

78. B.E.C.I. Reports on traceable items, July-August 1988.

79. Han-Padron Associates Monitoring Reports, March - July 1988. Interview with Baker/TSA, Inc., 24 August 1988.

80. Interview with Han-Padron Associates, 29 August 1988.

81. Han-Padron Associates Monitoring Reports, May 1988.

82. Observations of Inv. Henry Ashton, August 1988.

83. Interview with Han-Padron Associates, 29 August 1988.

84. Interview with Han-Padron Associates, 29 August 1988.

85. Prepared by Baker/TSA, Inc.

86. Han-Padron Associates' Monitoring Reports, June 1988.

87. Interview with Han-Padron Associates, 29 August 1988. Interview with Baker/TSA, Inc., 24 August 1988. Observations by B.E.C.I., various dates July and August 1988. Han-Padron Associates' Monitoring Reports, May - July 1988.

88. Interview of Bernard Lubetkin, 29 August 1988.

89. Region Two Law Enforcement Report, 12 July 1988.

90. 23 July 1988 Memorandum Rocky Piaggione to David Markell.

91. Report and Videotapes by Inv. John Brois, 5 and 6 August 1988.

92. Report by Inv. Henry Ashton on 11 August 1988.

93. Reports by Investigators John Brois and Henry Ashton, August 1988.

94. Reports by Investigators John Harmke and Henry Ashton, August 1988.

95. Interview of Han-Padron Associates, 29 August 1988.

96. Interview of Han-Padron Associates, 29 August 1988.

97. Interview of Han-Padron Associates, 29 August 1988; Baker/TSA, Inc. 24 August 1988.

98. Interview of Han-Padron Associates, 29 August 1988.

99. Interview of Han-Padron Associates, 29 August 1988; Baker/TSA, Inc. 24 August 1988.

100. Interview of Han-Padron Associates, 29 August 1988; Baker/TSA, Inc. 24 August 1988.

101. Interview of Han-Padron Associates, 29 August 1988; Baker/TSA, Inc. 24 August 1988.

102. Interview of Han-Padron Associates, 29 August 1988; Baker/TSA, Inc. 24 August 1988.

103. Interview of Han-Padron Associates, 29 August 1988; Baker/TSA, Inc. 24 August 1988.

104. Interview with Han-Padron Associates, 29 August 1988. This interview is recorded on a tape located in the White Plains Field Unit.

105. Interview with Baker/TSA, Inc. and David Rosenblatt, NJ D.E.P., 24 August 1988.

106. Michael Coscia's letter and report dated 5 July 1988.

107. N.J.A.G. videotape dated 18 June 1988.

108. Rocky Piaggione interview of Jane Levine, D.O.S., July 1988.

109. Report by Inv. John Brois, 8 August 1988.

110. Videotape dated 6 August 1988. A monoject vial is a vial manufactured by Monoject, Inc. and is small in size.

111. Report by Inv. Kenneth Cole, 9 August 1988. Report by Inv. Ernest Tobin, 20 July 1988. Report by Inv. John Brois, 25 July 1988.

112. Report by Inv. Kenneth Cole, 9 August 1988. Report by Inv. Ernest Tobin, 20 July 1988. Report by Inv. John Brois, 25 July 1988.

113. See Footnote 55.

114. Reports by Inv. Ernest Tobin, 20 July 1988. Report by Inv. John Harmke 27 July 1988. Report by Inv. John Brois, 25 July 1988.

115. See Footnote 2.

116. ~~Interview of R.L. Swanson, 10 August 1988.~~

117. Thomas Burke, N.Y.C.D.O.I., 8 September 1988.

118. Thomas Burke, N.Y.C.D.O.I., 8 September 1988.

119. Thomas Burke, N.Y.C.D.O.I., 8 September 1988.

120. Thomas Burke, N.Y.C.D.O.I., 8 September 1988.

121. Thomas Burke, N.Y.C.D.O.I., 8 September 1988. This currently untreated sewage are required to be collected under the new SPDES permits.

122. Interview of R.L. Swanson, 10 August 1988.

123. Report from Inv. John Brois based upon communication with National Weather Service.

124. Report from BECI investigators Ernest Tobin and Joh Brois, July 1988.

125. See Appendix, Inventory of syringes found in sewage treatment plants 8/1/88 from Edward Wagner; statement by DOS Deputy Commissioner Regina Morris to Rocky Piaggione.

126. BECI videotape, July 25, 1988.

127. BECI Videotape, August 1, 1988.

128. Report by John Brois and Charles Honikel, August 5, 1988.

129. See Appendix, Inventory of syringes found in sewage treatment plants 8/1/88 from Edward Wagner.

130. Article in Newsday, 9 August 1988.

131. Rocky Piaggione discussion with Elizabeth Volz, Maryland Attorney General's Office, October 4, 1988.

132. Han Padron Associates' Monitoring Reports May to July 1988.

133. Thomas Burke, N.Y.C.D.O.I., 8 September 1988.

134. Interview with Han Padron Associates 29 August 1988.

135. Interview with Han Padron Associates 29 August 1988.
Interview with Baker/TSA, Inc., 24 August 1988.
Observations by Inv. John Brois, August 1988.

136. Prepared by Baker/TSA, Inc.

137. See Han Padron Associates' Monitoring Reports and Baker Reports.

138. Interview of Han Padron Associates, 29 August 1988.

139. Interview with Han Padron Associates 29 August 1988.
Interview with Baker/TSA, Inc., 24 August 1988.
Observations by Inv. John Brois, August 1988.

140. Interview of Tug Operators by Inv. Kenneth Cole, 4 August 1988.

141. DOS Barge Study Report.

142. Rocky Piaggione and John Brois interview of Baker/TSA, Inc., 24 August 1986.

143. Rocky Piaggione and John Brois interview of Baker/TSA, Inc., 24 August 1988, and photographs.

144. Interview of John Rowell, D.O.S., July 1988.

145. Interview of John Rowell, D.O.S., July 1988.

146. Interview with Han Padron Associates, 29 August 1988.
Interview with Baker/TSA, Inc., 24 August 1988.

147. To date, one plastic cup from a cruise ship and less than a dozen prescription bottles have been traced back to boats/ships. See also Maritime Orginated Solid Waste in New Jersey Coastal Waters: A Study of the Problem, Price and Thomas, April 30, 1987.

148. United States Coast Guard Public Affairs. The National Academy of Science estimates that ocean disposal of litter totals 6,260,000 metric tons per year. Report of the Interagency Task Force on Persistent Marine Debris, May 1988.

149. Report by Inv. Ernest Tobin with New York City Health and Hospital Corporation Administrator, John Cherish, on 11 July 1988.

150. Interview of R.L. Swanson, 10 August 1988.

151. Report by U.S.E.P.A., February-March 1988.

152. One fisherman claimed to have seen a garbage barge heading east off the tip of Long Island on 6 July 1988. The fisherman was located by B.E.C.I. and interviewed. The fisherman stated he could not identify the barge as it was too far away. He claimed he assumed it was garbage as it looked like mounds of debris from a distance. He did not observe any discharge from the barge, nor did anyone else report seeing a garbage barge in the area.

153. Charles Hoffman, U.S.E.P.A., 4 October 1988.
Ted E. Thompson, U.S.C.G., 4 October 1988.

154. Charles Hoffman, U.S.E.P.A., 4 October 1988.

155. Thomas Burke, N.Y.C.D.O.I., 8 September 1988.

156. See Chronology of Closings and Composition of Washups section herein.

157. Thomas Burke, N.Y.C.D.O.I., Sept. 8, 1988.

158. New York Daily News: "Man Arrested in Dumping of Medical Trash", 12 August 1988. Newsday: "Medical Waste Found at Dump Traced to Firm", 16 August 1988.

159. People vs. Biohazard Control Company, Inc., et al., Westchester County Supreme Court, November 1985.

160. See People vs. John Harmon, Bronx County Supreme Court, still pending. Other infectious prosecutions in which the Department has been involved are listed in the Appendix.

161. Henry Ashton's Interview of D.O.S. employees, August 1988.

162. New Jersey Attorney General Carey Edwards described it as "a plant" on several occasions. The vials appeared not to have been in the water very long before discovery, and several were still in clear plastic bags.

163. People vs. Franklyn Laboratories, Suffolk County District Court, May-June 1987.

164. Statement by NYS Attorney General Medicaid Fraud Unit Investigator James Scaringe, July 1988.

165. See inventories in Appendix.

166. Statements by Daniel Millstone, D.O.S., July 1988.

167. New Jersey Attorney General Investigator, Wayne Smith.

168. New Jersey Attorney General Investigator, Wayne Smith.

169. BECI Videotape, 6 August 1988.

170. New Jersey Attorney General Investigator, Wayne Smith.

171. Daniel Millstone - D.O.S., September, 1988.

172. New Jersey vs. Central Diagnostic Laboratories, Inc., et al. Daniel Millstone, D.O.S., statements of blood vials found above waterline on Staten Island in April 1988.

STATEMENT OF HARVEY W. SCHULTZ, COMMISSIONER
NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
to the
WATER RESOURCES, TRANSPORTATION, and INFRASTRUCTURE
and
SUPERFUND, OCEAN, and WATER PROTECTION SUBCOMMITTEES
of the
SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE
on
PROGRAMS TO PREVENT FLOATABLE POLLUTION
in the
NEW YORK/NEW JERSEY HARBOR COMPLEX

One World Trade Center, 43rd Floor, New York, New York
Monday, June 19, 1989 - 9:30 a.m.

Thank you for the opportunity to appear today to speak about the problem of floatable pollution in the New Jersey-New York Harbor Complex. As we are on the brink of the bathing season, the importance of addressing and resolving this problem is all the more acute.

Believe it or not, New York City began its work on combined sewer overflow (CSO) abatement almost 40 years ago. The projects and programs which resulted from work begun in 1950 and from our extensive investigative studies during the mid 1970's have been implemented, and will be producing the anticipated, and desired, water quality improvements. Since each outfall must be scrutinized, evaluated, and resolved individually, it is highly technical and detailed work; but it must be done, and we're doing it. However, all of our efforts will leave the harbor unremediated if we are not joined in this effort simultaneously by our partner in the harbor, New Jersey. Our experience has taught us that extensive care, skill, and commitment is required to accomplish CSO abatement, and we eagerly offer the expertise we've gained which may be of use to New Jersey as it establishes and implements its own CSO abatement program. We commend New Jersey Commissioner Christopher Daggett for making the commitment to abate NJ CSO's. Now we look forward to being inspired by the great strides being made in this area by our neighbor to the West and hope to see the detailed engineering and analysis work as it becomes available.

As I mentioned, New York City's interest in abating dates back to the 1950's, when the City contracted for a series of studies focused on "The Elimination of Marginal Pollution", or CSO. These studies resulted in facility plans for approximately 25 CSO retention basins in Eastchester Bay, the Upper East River and Jamaica Bay, which would capture most overflows and return them to the treatment plants after the storm. A major construction program, called "The Auxiliary Water Pollution Control Program" was planned. The proposed CSO facility at Spring Creek on Jamaica Bay, designated as a prototype, was opened in 1972 and resulted in significant water quality improvements. After the completion of the Spring Creek Facility, the Auxiliary Program was suspended, mostly due to the advent of the Federal Water Pollution Control Act (FWPCA) of 1972. The unprecedented funding for pollution control provided by this law gave priority to the elimination of raw discharges and the achievement of secondary treatment at new and existing treatment plants.

From 1975 through 1977 the City did conduct a harborwide water quality study funded by a Federal Grant under Section 208 of the FWPCA. This study included development of a water quality computer model and monitoring of CSO's. Initial results showed that on a steady-state basis, the effect of CSO's on the dissolved oxygen levels of most of the "open water" parts of the harbor complex was insignificant, but that CSO's could result in contravention of water quality standards in the narrow creeks, canals and backwaters of certain bays. Consequently, a separate study was made of these confined water bodies, grouped generically under the title "Tributaries". Unlike the "open waters", several of these tributaries were found to be extremely oxygen deficient, resulting in septic conditions and offensive odors. Predicated on these findings, the Department of Environmental Protection formulated its new CSO Abatement Program, which consisted of Facility Planning Projects for those Tributaries which the 208 Study had indicated were severely impaired by CSO's. Some of these are Flushing Bay, Paerdegat Basin, and Newtown Creek.

Subsequently, in 1982, New York State required that the City develop an additional City-Wide program for the abatement of CSO's that cause contravention of water quality standards. DEP, with DEC's approval and the participation of USEPA and the ISC, began the development of this program through a two-phased approach. Even as we undertook the first phase, "CSO Problem Assessment," we also continued to advance our "Tributary" Program in Flushing Bay and Creek in Queens and Paerdegat Basin in Brooklyn. Following completion of the Phase I assessment, and based on those results, the Phase II Work Plan was developed. The Plan recommended that the harbor complex be divided into four areas for detailed Facility Planning: East River, Jamaica Bay, Inner Harbor, and Outer Harbor -- a wrap-up project incorporating the harbor water quality models and prioritizing recommended projects. In April 1988, we began

Facility Planning for the East River and Jamaica Bay Projects as recommended in the Phase I CSO Study. We have completed a summer of CSO and water quality monitoring and are beginning to evaluate alternatives for CSO abatement.

From all of these projects, the direction in which the Department's CSO Program is moving has become clear. For the largest CSO's discharging into the headwaters of tributaries, where a high level of abatement is called for, storage at or near the point of discharge, combined with treatment at existing plants, is the preferred technology. For smaller CSO's, it now appears that floatables removal will be necessary at most locations, with aggregation and/or elimination of outfalls where feasible. As we saw in the Flushing Bay CSO Facility Planning project, which can be considered a prototype for the current program, an array of large, medium, and small facilities, designed and operated as an integrated system will best meet the water quality goals of the water body under study. Remaining Area-Wide projects to be undertaken are the Inner Harbor Project (which has begun), and the Outer Harbor Project, both of which will be in the field this summer. Remaining tributaries, Newtown Creek and Bergen and Thurston Basins, will be initiated in FY'90 and '91.

New York City has also installed a prototype facility at Fresh Creek in Brooklyn to demonstrate the Flow Balance Method (FBM) for CSO abatement. This method for balancing urban runoff has been in use in freshwater lakes in Sweden, where it was invented and developed. Unlike conventional technology which calls for the construction of elevated or underground tanks, the FBM uses the natural receiving waterbody as a storage tank. The Fresh Creek facility was constructed during the summer of 1988, and operation began in November, 1988. The functional simplicity and minimal land requirements of the FBM make it an extremely attractive abatement strategy. We are hopeful that the data currently being collected will support further application of this technology.

The total capital cost of CSO abatement facilities in both the Tributary and Area-wide programs is anticipated to be at least $1.5 billion over the next 10 years. This will be funded by the NYC Municipal Water Finance Authority via revenue bonds tied to water and sewer charges. Although no direct Federal or State aid is now available, the upcoming New York State Revolving Loan Program may play a part in the funding of CSO abatement projects.

A major project which has recently been added to the Program is the City-Wide Floatables Study. This 2-year, $2.6 million study will be the most comprehensive study of floatable pollution ever conducted.

Elements of this study will include the location and mapping of sources of floatables, performance of field investigations for source characterization, and the evaluation of transport patterns. Finally, the study will develop and evaluate both structural and non-structural floatable abatement alternatives. The consultant we have selected for this project, HydroQual, Inc., specializes in the kind of computer modeling essential for this type of undertaking. We are confident that this study will provide definitive information on the subject of floatable pollution in the harbor complex, which will help government and the public reach decisions to quite literally stem the tide of floatable material in the harbor over time.

For the immediate term, the Floatables Action Plan coordinated by EPA was set in motion May 15. We are optimistic that this effort will provide immediate relief from floatable pollution. The Coast Guard, EPA, and NJDEP helicopter patrols will be able to provide notice of any advancing floating material. The Army Corps of Engineers clean-ups, with specially designed nets provided by New York and New Jersey, will facilitate capture of floatable material before it impacts beaches or other shoreline areas; the New York City Department of Sanitation will dispose of any material collected. Finally, the hotline reporting numbers to EPA, the Coast Guard, NJDEP and NYSDEC will in effect increase our ground inspectional forces by providing a communication link for the myriad pairs of recreation-seeking eyes that will be scanning the horizon. We applaud this cooperative effort, and urge passage of the proposed legislation, S.506, which provides ratification of and financial support for the important contribution being made by the Corps of Engineers.

In considering what additional measures are needed to control floatables, I think the focus should be on changing some waste disposal behavior. CSO abatement is a systems issue; that one is our responsibility and the responisbility of others who share the Harbor. But floatables is primarily a people issue: floatables simply do not get into the water by themselves. While there are measures which can, and are, being taken to abate floatable pollution, much of that pollution can be eliminated by changing behavior before-the-fact. Toward this end, Congress might consider requiring that instructions provided by manufacturers of goods which are frequent components of floatable pollution be revised to indicate that these goods should not be flushed or otherwise disposed of in, on, or through the water. This, or some similar measure would be an appropriate national policy initiative, targeted at preventing the problem from arising -- which is, of course, the ultimate solution.

I appreciate having this opportunity to familarize you with both the significant progress New York City has made on CSO abatement and our plans for even greater gains in water quality.

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

TESTIMONY OF JOHN ANDERSON, DEPUTY COMMISSIONER

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

BEFORE THE UNITED STATES SENATE SUBCOMMITTEES ON

WATER RESOURCES, TRANSPORTATION AND INFRASTRUCTURE

AND

SUPERFUND, OCEAN AND WATER PROTECTION

JUNE 19, 1989

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Good morning, Mr. Chairmen, distinguished Senators. I would like to thank the committees represented here for offering Connecticut the opportunity to present testimony on the critical issue of floatable debris in our coastal waters. Connecticut applauds the intent of S. 506 to address floatable debris problems in coastal waters. Floatable debris is a visible symptom of water quality problems which plague our nation's estuaries. Connecticut, like many coastal states, has had to come to grips with the ever-increasing problem of floatable debris washing up on its shores. The Summer of 1988 was memorable as sanitary wastes, syringes and bacterial contamination forced the closing of many of our public beaches during one of the hottest summers in recent memory. While Connecticut has effectively responded to these issues and is able to manage them, final correction may be decades away as expensive water quality issues proliferate and badly-needed federal programs dwindle. In my testimony today I'd like to:

1) Review the floatable debris issue as it pertains to Connecticut waters,
2) Summarize some of our efforts to manage and control debris levels in Connecticut,
3) Relate floatable debris in Long Island Sound to state combined sewer, solid waste and biomedical waste management initiatives, and
4) Present a prognosis for floatable debris and other water quality management issues under existing state-federal authorities and funding levels.

The focus of the floatable debris issue during 1988 was the "medical debris", primarily syringes, that washed ashore in Connecticut (see Attachment for medical debris and biomedical waste definitions). Repeated news stories on syringe findings heightened public awareness, led to closer scrutiny of shoreline debris and ultimately to more findings and beach closures. In response, Connecticut DEP established "Operation Beachwatch" to monitor and evaluate shoreline debris to try to establish a common source. An evaluation of the data led us to conclude that illegal dumping of medical debris by hospitals, clinics or other public treatment facilities was not at the root of the problem.

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Syringes, particularly the insulin type syringes which dominated the findings in Connecticut, are an expected component of beach washup and litter, albeit a relatively small component. Fewer than 200 syringes were reported along Connecticut's more than 100 miles of coastline. Numbers found in 1988 may have been a higher than average because of a long period of drought followed by intensive storms which flushed storm and combined sewers where debris, including syringes, had built up. The source of the syringes include both legitimate use by diabetics who may flush them down a toilet introducing them to combined sewer systems and illicit use by drug abusers who may discard them on streets where they become part of stormwater runoff. The near absence of other typical types of medical waste, (e.g. larger volume syringes, blood vials, biomedical plastics), further supports our conclusion that medical waste dumping was not the cause of the 1988 sightings.

In addition to the medical debris, late July rainstorms brought a large mass of floating debris into western Long Island Sound. The material was tracked eastward until it settled in the shoreline areas of Stamford, CT and forced beach closings there due to high bacterial levels. The associated sanitary wastes and grease balls suggest a combined sewer origin and speculation that New York City combined sewers were the source. This type of problem, while not observed previously, certainly has the potential for reoccurrence given the proper meteorological conditions. Similar, smaller scale slicks were reported in Fairfield that undoubtedly had their origin in Bridgeport where combined sewers also exist.

It was apparent from the 1988 findings that 1) Connecticut is impacted by floatable debris, 2) a health issue may exist in cases of associated high bacterial levels, 3) medical waste dumping does not appear to be a problem in Connecticut, and 4) the source of much of the debris is difficult to control since it originates from combined sewers, individuals littering in inland areas which drain into Long Island Sound or by boaters and beach users.

Connecticut's response to these issues was to form a multi-agency work group to objectively evaluate the facts that emerged from the events of last summer and to develop recommendations for both state and local officials to follow in responding to future incidents. The group pulled together a broad segment of the state's public health community and developed protocols for handling of medical-type debris if found on beaches, for monitoring and closing beaches in the event of bacterial contamination and for responding to sewage and floatable debris slicks should they reoccur. These actions are detailed in the attached "Coastal Sanitation Report".

While response to incidents of beach contamination and floatable debris washups is a necessary management action at this time, Connecticut is also working toward resolution of long-term problems that lead to debris entering Long Island Sound. Combined sewer correction is a major focus of Connecticut's Clean Water Fund and plans are being completed for corrections in Hartford and Bridgeport. In New Haven the first phase of construction is underway (see Table). Combined sewer abatement will lead to elimination of sanitary debris entering Connecticut waterways during storm events.

Prior to all the publicity about medical waste on the nation's shoreline, Connecticut was well into the process of drafting regulations for tracking and disposing of biomedical waste from hospitals and clinics. The type of cradle to grave management being implemented will preclude biomedical waste entry into surface waters. We must recognize that disposal of solid waste in general is a problem which is reaching crisis proportions. To stem the flow of waste, Connecticut is vigorously pursuing recycling and incineration as alternatives to landfill disposal. Biomedical waste, however, requires special attention and special treatment to ensure complete disinfection. There are currently few facilities in the state which can handle biomedical waste with one facility in Middletown handling about 60% of the biomedical waste from the state's large biomedical waste generators. The need for facilities which can accept biomedical waste at a reasonable cost is apparent.

Connecticut, through its participation in the Long Island Sound Study, is working with New York and federal agencies to provide a more comprehensive evaluation of the problem. Using some of the activities in New York Harbor as a model, the study is assessing present conditions and means for controlling floatable debris in Long Island Sound and will develop a bi-state strategy for managing the problem. Continued support for the study will greatly enhance our ability to manage coastal systems comprehensively, beyond state boundaries, which makes sense for floatable debris which can easily drift across state boundaries. Even expanding management to a regional basis may have benefits.

One point common to all water quality issues is the high cost of implementing necessary changes to correct the problem. The federal construction grants program is an example of a program which was successful in improving water quality in Connecticut by bringing publicly-owned treatment facilities up to a secondary level of treatment. Without the federal funds there is no question that we wouldn't be as far along as we are today. Now we are looking at water quality issues that are far more costly to correct without the federal backing we once enjoyed. We applaud S. 506 as a significant step in bringing federal support to the nation's estuaries. However, we should view this as only the initial step in developing comprehensive federal support to address both floatables and less visible problems such as nutrient enrichment and bacterial contamination. Although current planning calls for the phasing out of federal construction grants/loans, fresh thinking is required to resolve the estuary problems being identified today and programs such as these may merit reconsideration.

While Connecticut has been able to establish a Clean Water Fund to address some of the remaining treatment plant upgradings and combined sewer corrections that remain, needs beyond what the fund was planned for continually come to our attention. For example, the Long Island Sound Study has identified nutrient removal at municipal sewage treatment plants as a likely recommendation of their final plan at a cost which ~~may~~ exceed $6 billion for both Connecticut and New York. In order to realize progress toward a clean-up of Long Island Sound, an expensive funding program, that will undoubtedly require federal participation, must be instituted. We urge Congress to continue to explore ways to integrate federal support with state efforts.

There is some question as to whether a $1 million appropriation to the National Oceanic and Atmospheric Administration to complete the water circulation model of Long Island Sound will be authorized. The model is an important tool to be used in resolving the low dissolved oxygen problem in the Sound and may have other applications in water quality evaluations including transport of floatable debris. If we cannot generate the support for the early phases of problem resolution, how can we ever support and prioritize billion dollar corrective actions such as nutrient removal, combined sewer correction and solid waste management without adequate federal support? I encourage the chairmen and members of the committees represented here to become champions of the efforts to solve today's environmental problems.

Thank you for the opportunity to discuss the issue of floatable debris and water quality in Long Island Sound with you today.

Table 1. Schedule for combined sewer corrections in Connecticut Municipalities including cost estimates (August, 1988).

Bridgeport	Description:	Of the 12,800 acres serviced by sewers, 3,880 acres have combined sewers. There are 148 regulators of which 94 discharge to 12 receiving waters through 71 overflows. There are 31 tidegates on the overflows. The first phase will reduce the number of overflows to 19 controlled regulators.
	Timing:	Phase I will take from 3 to 5 years. Upon completion of Phase I, the effectiveness will be evaluated and plans for further construction (Phase II) will be made.
	Cost:	$50 million
New Haven	Description:	New Haven has 15 mi^2 of its 22 mi^2 in combined sewers. There are 72 overflows, most which discharge to the Quinnipiac River and New Haven Harbor. The project has three phases: Phase I will separate sewers in the upper drainages, Phase II will cover most of the lower drainages and Phase III will cover remaining areas, primarily in the western section of the city.
	Timing:	Phase I--9 years Phase II--7 years Phase III--7 years
	Cost:	$140 million
Norwich	Description:	43 CSO points have been identified in Norwich of which 8 have been recently eliminated. Design of complete separation of the sewers has been completed but Norwich is studying the need for complete separation. The study will be completed in mid 1990.
	Timing:	Separation contracts will be prioritized or eliminated based on the ongoing study in 1990.
	Cost:	If implemented, complete separation would cost about $80 million.

Table 1 (Continued).

Hartford	Description:	Hartford has 121 overflow points all of which eventually discharge to the Connecticut River. A facility plan is under development. Preliminary planning indicates that some separation of sewers will be implemented with remaining CSO's consolidated for treatment and disinfection prior to discharge.
	Timing:	The facility plan will be completed in 1988.
	Cost:	Costs for total control exceed $150 million.
Middletown	Description:	Combined sewers remain in the central business district. Discharge is to the Connecticut River. The city plans to separate these sewers.
	Timing:	The second of three phases will be complete by 1996.
	Cost:	$25 million.

ATTACHMENT

DEFINITIONS

MEDICAL DEBRIS:

Any solid waste that is produced from the administration of home health care and as a result becomes a normal and expected component of the municipal household solid waste stream. Also includes medical items discarded by drug users. For example, medical debris can include syringes, surgical gloves, pill vials, etc..

BIOMEDICAL WASTE:

As defined in the CT DEP Proposed Biomedical Waste Regulation, "Biomedical waste" means; untreated solid waste generated during the administration of medical care or the performance of medical research involving humans or animals, including infectious waste, pathological waste and chemotherapy waste; but excluding (1) any solid waste which is a hazardous waste pursuant to Section 22a-115 of the General Statutes, or a radioactive material regulated pursuant to Section 22a-148 of the General Statutes; (2) untreated solid waste generated during the administration of medical care in a single or multiple family residence; and (3) discarded materials used for personal hygiene, such as diapers, facial tissues, and sanitary napkins, unless such materials are isolation waste.

Biomedical waste is also defined in subpart D, Vol. 54, No. 56, Federal Register dated Friday, March 24, 1989.

TESTIMONY OF ERIC J. EVENSON

DEPUTY DIRECTOR

DIVISION OF WATER RESOURCES

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

BEFORE THE SENATE SUBCOMMITTEES ON WATER RESOURCES, TRANSPORTATION AND INFRASTRUCTURE, AND SUPERFUND, OCEAN AND WATER PROTECTION

43RD FLOOR, WORLD TRADE CENTER
NEW YORK, NEW YORK

JUNE 19, 1989

GOOD MORNING MR. CHAIRMAN, MEMBERS OF THE SUBCOMMITTEES, I APPRECIATE THIS OPPORTUNITY TO TESTIFY BEFORE YOUR TODAY AND TO GIVE YOU THE COMMENTS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION REGARDING THE CRITIAL ISSUE OF FLOATABLES POLLUTION IN THE NEW JERSEY/NEW YORK HARBOR COMPLEX.

FLOATABLES POLLUTION IS CERTAINLY A MOST VISIBLE INDICATOR OF WATER QUALITY IN OUR ESTUARIES AND IN OUR OCEAN. WHILE IT MAY NOT CARRY THE HIGHEST PUBLIC HEALTH RISK, IT CERTAINLY GARNERS SOME OF THE MOST FERVENT PUBLIC OUTCRY FOR ACTION. ADD TO THAT THE IMAGE OF MEDICAL WASTE AND THE PERCEIVED FEAR IS MAGNIFIED A 100 TIMES OR MORE. AND AS WE HAVE LEARNED, PUBLIC PERCEPTION ONCE FORMED, IS A MOST POWERFUL FORCE TO OVERCOME.

WE REMEMBER THAT FAMOUS "KEEP AMERICA BEAUTIFUL" AD CAMPAIGN BACK IN THE 1970S. THE INDIAN PADDLING DOWN A MEANDERING RIVER. PULLING HIS CANOE ONTO THE SHORE STREWN WITH

GARBAGE. THEN THE TEAR RUNNING DOWN THAT RUSTIC FACE. IT REALLY HITS HOME. A SIMPLE MESSAGE. DON'T LITTER. CLEAN UP AFTER YOURSELF.

WELL- THAT SIMPLE MESSAGE HAS BECOME ONE PART OF A MULTI-PHASE APPROACH TO COMBATING FLOATABLE PROBLEMS WE HAVE EXPERIENCED IN NEW JERSEY,. ANTI-LITTER EFFORTS STILL ARE NECESSARY BECAUSE AFTER YEARS OF TRYING, LITTER, THE HARBINGER OF FLOATABLES, REMAINS A PROBLEM. A LOT OF PEOPLE DON'T REALIZE OR CAN'T COMPREHEND THAT IF THEY DROP TRASH ANYWHERE IN THE SHORE REGION OR ALONG A ROAD, OR PITCH IT OFF A BRIDGE, IT FINDS ITS WAY TO THE SEA AND ONTO OUR BEACHES.

I WOULD FIRST LIKE TO SAY THAT S. 506, AUTHORIZING THE U. S. ARMY CORPS OF ENGINEERS TO COLLECT AND REMOVE ALL FLOATING MATERIAL FROM THE NEW YORK HARBOR WATERS, IS A VERY WORTH WHILE PIECE OF LEGISLATION. THIS LEGISLATION IS NECESSARY FOR THE LONG TERM SUCCESS OF THE NEW YORK BIGHT FLOATABLES DEBRIS

ACTION PLAN. THAT ACTION PLAN HAS ALREADY BEEN DEMONSTRATED AS A SUCCESSFUL EFFORT FOR REMOVAL OF FLOATING DEBRIS FROM HARBOR WATERS. WE THEREFORE STRONGLY SUPPORT ENACTMENT OF S. 506. AND YES, NUMEROUS ACTS HAVE ALSO BEEN TAKEN AT THE LOCAL, STATE AND FEDERAL LEVELS TO COMBAT HOUSEHOLD AND MEDICAL WASTES FROM TRASHING OUR COASTLINES.

BUT BEFORE WE SPEAK ABOUT THOSE ACTIONS, I THINK WE NEED TO ACCURATELY AND FACTUALLY CHARACTERIZE THIS ISSUE.

NUMBER OF BEACHES CLOSED

DURING THE 1988 SUMMER SEASON, FOR THE 18 WEEKS THAT ENCOMPASSED THE MAY THROUGH SEPTEMBER SWIMMING SEASON, A TOTAL OF THREE (3) BEACHES WERE CLOSED DUE TO FLOATABLE DEBRIS AND THESE CLOSURES REPRESENTED A TOTAL OF SIX (6) DAYS OF BEACH CLOSURE. TO PUT THIS IN PERSPECTIVE, THESE CLOSURES WERE THE TOTAL FOR THE 127 MILES OF OCEAN COASTLINE IN NEW JERSEY, OVER

THE 18 WEEK RECREATIONAL BATHING SEASON. BUT THIS IS CERTAINLY NOT THE PERSPECTIVE THAT HAS BEEN LEFT US BY THE MEDIA AND OTHERS WHO WOULD CHARACTERIZE LAST SUMMER EVENTS AS EFFECTING THE ENTIRE NEW JERSEY SHORE AND OVER A MUCH MORE EXTENSIVE PERIOD OF TIME. IN FACT, LAST SUMMER THERE WERE NO BEACH CLOSURES IN ALL OF ATLANTIC COUNTY, OCEAN COUNTY, AND ONLY ONE IN CAPE MAY COUNTY. THE MOST SEVERE INCIDENT WAS THE THREE-WEEK PERIOD OF CLOSURES INVOLVING THE ASBURY PARK TREATMENT PLANT. A PLANT, I AM PLEASED TO SAY, THAT HAS NOW BEEN REPLACED BY A NEW, MODERN FACILITY.

I WOULD ALSO LIKE TO ADD, FOR THE RECORD, THAT MEDICAL WASTE REPRESENTED THE SMALLEST VOLUME OF WASTE COLLECTED ALONG THE NEW JERSEY BEACHES LAST SUMMER. ALL SUCH WASTE ADDED UP TO A TOTAL OF TWO (2) SHOPPING BAGS WORTH. YOU WILL NOTICE THAT I DID NOT SAY INFECTIOUS WASTE AND I HOPE ALL IN ATTENDANCE HAVE COME TO KNOW THAT THE TWO RARELY GO HAND IN HAND WHEN FOUND IN THE OCEAN ENVIRONMENT.

FLOATABLE STUDY

TO INVESTIGATE THE GROWING PROBLEM OF FLOATABLE DEBRIS IN THE OCEAN, IN 1987 THE DEPARTMENT OF ENVIRONMENTAL PROTECTION LAUNCHED A THREE-PART STUDY TO DETERMINE THE ORIGIN AND PATHWAYS OF FLOATABLES. I'M SURE YOU'VE HEARD ABOUT THE LAST PART WE CONDUCTED -- THOUSANDS OF SPECIAL FLOATING BOTTLES WERE DROPPED AT VARYING POINTS -- SOME OF WHICH ARE STILL BEING FOUND IN REMOTE LOCATIONS SUCH AS SCOTLAND AND WALES. BUT THE MAIN FINDINGS REINFORCED OUR BELIEFS ABOUT THE WASTE THAT ORIGINATES IN THE NEW YORK-NEW JERSEY HARBOR AREA AND THE FACT THAT IT MAINLY COMES ASHORE ON LOCAL NEW YORK AND NEW JERSEY BEACHES. ALSO, FLOATABLES WERE SHOWN TO MOVE FROM THE INNER HARBOR TO CAPE MAY IN JUST TWO WEEKS. THIS STUDY DEMONSTRATED TO US THAT WE NEED TO CONCENTRATE OUR EFFORTS TO CONTROL FLOATABLES ON THE HARBOR COMPLEX ITSELF AND THE MANY SOURCES FROM WHICH FLOATABLES ORIGINATE.

WHERE THE WASTE COMES FROM

SHORELINE DEBRIS

I WOULD LIKE TO DISCUSS BRIEFLY, WHAT WE HAVE FOUND TO BE THE MOST SIGNIFICANT SOURCES OF FLOATABLE DEBRIS. AFTER SEVERAL SUMMERS OF HELICOPTER SURVEILLANCE IN THE HARBOR COMPLEX AND ALONG THE NEW JERSEY SHORELINE, WE HAVE FOUND THAT CERTAIN CONDITIONS LED TO THE FORMATION OF FLOATABLE SLICKS. THE CONDITIONS CAN BE BROKEN INTO TWO CATEGORIES. FIRST, WERE THE SUMMER STORMS WITH THE INCREASED FLOW IN RIVERS AND STREAMS ALONG OUR COASTLINE. SECOND, WERE THE HIGH TIDES THAT SURROUND THE FULL MOON AND NEW MOON EACH MONTH. AFTER WITNESSING THE FORMATION OF SLICKS DURING THESE EVENTS AND OBSERVING THE LARGE AMOUNT OF FLOATABLE DEBRIS ACCUMULATED ALONG OUR SHORELINES IN THE HARBOR COMPLEX, WE HAVE CONCLUDED THAT THE MOST SIGNIFICANT CONTRIBUTOR OF FLOATABLE DEBRIS TO ESTUARY AND NEAR-COASTAL WATERS IS THAT ACCUMULATION ALONG THE SHORELINES. I WANT TO

MAKE A POINT HERE, TO DRAW A DISTINCTION, THESE ARE NOT OUR RECREATIONAL BEACH SHORELINES. WHAT I'M TALKING ABOUT IN NEW JERSEY IS THE SHORELINE BETWEEN THE GEORGE WASHINGTON BRIDGE AND SANDY HOOK. THESE AREAS ARE FLUSHED OF THE MATERIAL THAT HAS ACCUMULATED OVER YEARS WORTH OF LITTERING AND IMPROPER DISPOSAL BY STORM EVENTS AND HIGH TIDES.

STORMSEWERS AND COMBINED SEWER OVERFLOWS

ANOTHER CONTRIBUTOR OF FLOATABLE DEBRIS ARE STORMSEWER SYSTEMS AND OUR COMBINED SEWER OVERFLOWS THAT ARE SO PREVALENT IN THE NEW YORK-NEW JERSEY HARBOR COMPLEX. THESE STORMSEWER SYSTEMS AND COMBINED SEWER OVERFLOWS CARRY THE ACCUMULATED WASTE FROM OUR STREETS AND GUTTERS, STRAIGHT INTO OUR ESTUARINE WATERWAYS, AND AGAIN THE MATERIAL CAN BE DRIVEN OUT AND ONTO OUR OCEAN BEACHES.

LITTERING

OF COURSE ANOTHER MAJOR CONTRIBUTOR OF FLOATABLE DEBRIS, IS THE LITTERING THAT OCCURS EVERYDAY, BOTH ON OUR RECREATIONAL BEACHES AND THROUGHOUT OUR ENVIRONMENT. IF PROPER HANDLING OF SOLID WASTE WAS PRACTICED BY EVERY RESIDENT IN OUR REGION, THE FLOATABLE DEBRIS PROBLEM COULD BE CLEANED UP ONCE AND FOR ALL. WITHOUT PROPER HANDLING, THE PROBLEM OF FLOATABLE DEBRIS WILL CONTINUE YEAR AFTER YEAR. EACH YEAR OVER 8000 TONS OF LITTER IS CLEANED FROM OUR BEACHES. THIS MATERIAL BURIED IN THE SAND IS COSTLY TO COLLECT AND DISPOSE. MORE IMPORTANTLY, THIS BEACH LITTER ADDS TO THE PERCEPTION THAT OUR BEACHES ARE POLLUTED.

FRESHKILLS LANDFILL

THE FRESHKILLS LANDFILL HAS IN THE PAST BEEN A MAJOR CONTRIBUTOR OF FLOATABLE MATERIAL TO THE NEW YORK HARBOR

COMPLEX, INCLUDING SPILLAGE FROM THE MARINE TRANSPORT OF SOLID WASTE TO THAT LANDFILL. THE NEW YORK CITY DEPARTMENT OF SANITATION, HAS BEEN MAKING MANY IMPROVEMENTS INCLUDING THE INSTALLATION OF BOOMS, NEW CRANES AND NEW SKIMMER BOATS, AND OTHER OPERATIONAL IMPROVEMENTS AT THE LANDFILL AND AT THE MARINE TRANSFER STATIONS WHICH MOVE MATERIAL TO THE LANDFILL. THESE IMPROVEMENTS HAVE RESULTED IN A REDUCTION IN THE AMOUNT OF FLOATABLE DEBRIS THAT IS CONTRIBUTED BY THESE FACILITIES. BUT WE BELIEVE THAT STILL MORE NEEDS TO BE DONE IN ORDER TO CONTROL THIS SOURCE OF FLOATABLES. THE STATE OF NEW JERSEY CONTINUES TO PUSH FOR FULL CONTAINERIZATION OF THE ENTIRE FRESHKILLS OPERATION. THAT MATTER IS BEFORE JUDGE BARRY.

REMEDIAL PROGRAMS

I WOULD LIKE NOW TO MOVE TO SOME OF THE ACTION PROGRAMS THAT THE DEPARTMENT OF ENVIRONMENTAL PROTECTION HAS PUT IN PLACE

AND PARTICIPATED IN, IN ORDER TO PREVENT FLOATABLES FROM ENTERING OUR MARINE ENVIRONMENT OR FOULING OUR OCEAN BEACHES.

OPERATION CLEAN SHORES

THE FIRST OF THESE MEASURES IS A SHORELINE CLEANUP EFFORT ALONG THE NORTHERN, MOST URBANIZED AND POPULATED PART OF THE STATE. THIS EFFORT IS A JOINT PROJECT BETWEEN THE STATES OF NEW YORK AND NEW JERSEY. IT HAS BEEN LABELED "OPERATION CLEAN SHORES", AND IT FOCUSES ON REMOVING FLOATABLE DEBRIS FROM OUR NORTHERN SHORELINE AND PARTS OF NEW YORK. SEVERAL MONTHS AGO, GOVERNOR KEAN AND MAYOR KOCH ANNOUNCED THIS NEW PROGRAM. THEY NOTED THAT ONCE REMOVED, THIS MATERIAL WILL NOT "RE-FLOAT" DURING HIGH TIDES OR HEAVY RAINS, MOVING SOUTH OR NORTH TO OUR TOURISM BEACHES.

BY USING THE DEPARTMENT OF CORRECTIONS INMATES AND WORK CREWS, WE ARE CONFIDENT WE CAN MAKE A REAL DIFFERENCE THIS

SUMMER. NEW JERSEY IS SPENDING $2 MILLION FOR THIS INTENSIVE, THREE MONTH EFFORT TO CLEAN THE SHORE LINE IN RARITAN AND NEWARK BAYS, THE ARTHUR KILL, THE KILL VAN KULL AND THE HUDSON RIVER. COMMUNITIES ARE COOPERATING AS PART OF THIS EFFORT. A TOTAL OF 16 1/2 MILES OF SHORELINE ALONG THIS URBANIZED COASTLINE HAVE ALREADY BEEN CLEANED OF MORE THAN 2,500 TONS OF FLOATABLE DEBRIS. OF THIS 5 MILLION POUNDS OF DEBRIS, ONLY 5 POUNDS OF MEDICAL WASTE WAS COLLECTED.

NEW YORK BIGHT FLOATABLES DEBRIS ACTION PLAN

A SECOND PROGRAM, IS AN INNOVATIVE EFFORT CALLED THE NEW YORK BIGHT FLOATABLE DEBRIS ACTION PLAN. THIS ACTION PLAN TIES TOGETHER THE EFFORTS OF THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, THE NEW YORK STATE ENVIRONMENTAL CONSERVATION DEPARTMENT, THE NEW YORK CITY DEPARTMENT OF SANITATION, THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, THE UNITED STATES CORPS OF ENGINEERS AND THE UNITED STATES COAST

GUARD. THE PRIMARY OBJECTIVES OF THE ACTION PLAN ARE TO ESTABLISH A SURVEILLANCE PROGRAM FOR THE NEW YORK HARBOR COMPLEX, THE SOUTH SHORE OF LONG ISLAND AND THE NEW JERSEY SHORE FOR FLOATABLE DEBRIS SLICKS AND TO ESTABLISH A PROGRAM FOR CLEANING UP FLOATABLE DEBRIS SLICKS DETECTED IN THESE AREAS. UNDER THE FIRST OBJECTIVE OF THIS ACTION PLAN, SURVEILLANCE WILL BE CONDUCTED BETWEEN MAY 15 AND SEPTEMBER 15 OF EACH YEAR IN THE AREA OF THE HARBOR COMPLEX AND THE TWO SHORELINES.

HELICOPTER OVER FLIGHTS WILL BE MADE DAILY AND WILL CONCENTRATE ON LOOKING FOR FLOATABLE SLICKS AND IN CHECKING FOR OTHER WATER QUALITY CONDITIONS RELATED TO OCEAN BATHING. A NETWORK OF COMMUNICATIONS BETWEEN PARTICIPATING AGENCIES HAS BEEN DEVELOPED TO RESPOND QUICKLY TO MATERIAL SIGHTED IN THE WATER AND TO GIVE AFFECTED COMMUNITIES ADVANCED WARNING.

THE SECOND ASPECT OF THE PROGRAM DEALS WITH THE CLEAN UP OF FLOATABLE DEBRIS SLICKS. THIS INVOLVED THE USE OF ARMY CORPS OF

ENGINEERS VESSELS AND VESSELS WHICH WILL BE CONTRACTED FOR, BY THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION. THESE VESSELS WILL BE PLACED AT STRATEGIC LOCATIONS WHERE FLOATABLE DEBRIS IS KNOWN TO ACCUMULATE AFTER HIGH TIDES AND SUMMER STORM EVENTS. IT WILL BE CLEANED OUT OF THE WATER BEFORE IT ENTERS THE OPEN OCEAN WHERE IT COULD POTENTIALLY EFFECT OUR RECREATIONAL BEACHES. WE BELIEVE THAT THIS ACTION PLAN REPRESENTS THE MOST COMPREHENSIVE CONTROL STRATEGY FOR FLOATABLES IN THE UNITED STATES.

I'D LIKE TO RETURN TO THE ISSUE OF MEDICAL WASTE AND TO TALK A LITTLE BIT ABOUT OUR COMPREHENSIVE REGULATED MEDICAL WASTE MANAGEMENT ACT IN NEW JERSEY.

MEDICAL WASTE TRACKING REGULATIONS

BEFORE I TALK ABOUT OUR LAW AND REGULATIONS, LET ME ADD FOR THE RECORD THAT MEDICAL WASTE REPRESENTED THE SMALLEST VOLUME OF

WASTE COLLECTED ALONG NEW JERSEY BEACHES LAST SUMMER. ALL SUCH WASTE ADDED UP TO 2 SHOPPING BAGS WORTH OF MATERIAL.

MEDICAL WASTE WAS A PROBLEM, BUT ONLY BRIEFLY ALONG THE SANDY HOOK FEDERAL RECREATION AREA. ITS BEACHES WERE FOULED WITH MEDICAL AND HOUSEHOLD DEBRIS FOR THREE DAYS ON THE OCEAN SIDE, MAINLY DUE TO ITS PROXIMITY TO THE MAIN HARBOR AREA. OFTEN SYRINGES FROM DRUG USERS, DIABETICS AND OTHERS END UP IN STORMWATER DRAINS FROM STREETS OR COMBINED SEWER OVERFLOW SYSTEMS WHICH BOTH EMPTY INTO WATERWAYS THAT LEAD TO THE OCEAN.

IN TERMS OF BLOOD VIALS, THERE WERE THREE INCIDENTS INVOLVING A TOTAL OF SIX VIALS. TWO VIALS, ONE CONTAINING THE HIV ANTIBODY, HAVE BEEN TRACED TO A BROOKLYN LABORATORY. THE FIRM ALSO HAS BEEN INDICTED FOR ILLEGALLY DUMPING MEDICAL WASTE IN THE NORTH JERSEY TOWN OF EDGEWATER, AND STILL FACES CHARGES FOR THE TWO VIALS. THE OTHER FOUR HAD NO MARKINGS AND TESTED NEGATIVE FOR AIDS AND HEPATITIS. BLOOD VIALS WERE ALSO FOUND IN

BAYONNE, BUT THESE NORTHERN LOCATIONS CERTAINLY DO NOT QUALIFY AS WASH-UPS ON THE JERSEY SHORE. THEY CAN, HOWEVER, BE CARRIED SOUTH VIA TIDES AND CURRENTS.

IT HAS BEEN CLEAR THAT SIGNIFICANT REGULATORY INITIATIVES ARE NEEDED IN ORDER TO CONTROL THIS PROBLEM. THE NEW JERSEY STATE LEGISLATURE HAS WORKED OUT THE COMPREHENSIVE BILL WHICH IS STRUCTURED TO MANAGE ALL MEDICAL WASTE IN THE STATE. GOVERNOR KEAN SIGNED THE BILL ON MARCH 6, 1989. THIS LEGISLATION IS CONSISTENT WITH THE LAW ENACTED BY CONGRESS LAST OCTOBER.

NEW JERSEY'S LAW SET IN PLACE RULES FOR TRACKING MEDICAL WASTE THROUGH A "CRADLE TO GRAVE" MANIFEST SYSTEM. FURTHER, IT CALLS FOR AN INVENTORY OF THE GENERATORS, TRANSPORTERS AND DISPOSAL FACILITIES IN OPERATION. THE DEP WILL COMPLETE A COMPREHENSIVE STATE PLAN BY MARCH 1990 TO MANAGE THE STATE'S MEDICAL WASTE INTO THE FUTURE. THIS WILL BE QUITE A MILESTONE

FOR A WASTE THAT HAD NEVER BEEN REGULATED UNDER EXPLICIT ENVIRONMENTAL OR HEALTH LAWS BEFORE.

IN GENERAL, WE HAVE BEEN TAKING IN A LOT OF INFORMATION FROM MANY OF THE 40,000 OR MORE GENERATORS OF THIS WASTE.

TO DATE, 83 PERCENT OF THE MAJOR GENERATORS -- 1,385 LICENSED HEALTH CARE FACILITIES HAVE COMPLIED WITH THE LAW. HOSPITALS, WHICH GENERATE 80 PERCENT OF THE TOTAL VOLUME, ARE IN 100 PERCENT COMPLIANCE WITH THE REPORTING REQUIREMENTS.

THE INDIVIDUAL DOCTORS AND DENTISTS AND OTHER IN THIS GROUP, WHICH TOTAL MORE THAN 40,000 PRIVATE PRACTITIONERS AND AGENCIES ARE NOT FAIRING QUITE AS WELL. COMPLIANCE IS LOW RANGING FROM LESS THAN ONE PERCENT TO 64 PERCENT.

UNIFIED RULES SUPPLEMENTED BY GUIDANCE DOCUMENTS AND TRAINING COURSES WILL BE CRUCIAL IN HELPING THE GENERATORS, TRANSPORTERS, AND OPERATORS UNDERSTAND THE LARGE UNIVERSE OF REQUIREMENTS BEING IMPLEMENTED.

WOOD BURNING CONTROLS

REGARDING THE ISSUE OF WOOD BURNING, ITS CONTROLS AND THE USE OF THE WOOD BURNING SITE 17 MILES OFF SHORE, FEDERAL AND STATE AGENCIES HAVE BEEN ACTIVE IN INSURING THAT THESE ACTIVES DO NOT CONTRIBUTES FLOATABLE TO OUR MARINE ENVIRONMENT. DURING LAST SUMMER, FROM THE PERIOD OF LABOR DAY TO MEMORIAL DAY, NO BURN BARGES WERE ALLOWED TO UTILIZE THAT SITE. THIS WILL BE THE SECOND SUMMER SEASON WITH NO WOOD BURNING. IN ADDITION, THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION WAS DEPUTIZED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY TO CONDUCT SURVEILLANCE OF THE BURN OPERATIONS AND OUR DEPARTMENT HAS PARTICIPATED IN SURVEILLANCE OF EVERY BURN OPERATION DURING THE YEAR.

SEWAGE INFRASTRUCTURE IMPROVEMENT ACT

To address the issue of combine sewer overflows in New Jersey, a new law called the Sewage Infrastructure Improvement Act pasted during 1988 sets forth a statewide effort of planning and design of abatement measures for these systems. These measures will be required from all public entities operating combined sewers. Regulations are being prepared along with priority lists for the issuance of grants. Planning and design of combined sewer overflow abatement measures will be due in February of 1991. Approximately $17.5 million dollars has been allocated for the plans and designs as part of that law. The Department of Environmental Protection will be preparing a priority system for combined sewer overflow abatement construction projects. At the present time, no funds have been allocated for the construction aspects of this effort. Clearly the control of the combined sewer overflow systems throughout the state will contribute through lessening the

PROBLEMS OF FLOATABLE DEBRIS THAT ARE CARRIED BY STORMWATER RUNOFF.

ANTI-LITTER CAMPAIGN

I WOULD ALSO LIKE TO MENTION THAT NEW JERSEY HAS HAD AN AGGRESSIVE ANTI-LITTER CAMPAIGN TO HELP REMIND BEACHGOERS TO CLEAN UP AFTER THEMSELVES. AS SOME MAYORS HAVE FOUND, SPENDING THOUSANDS OF DOLLARS DAILY TO CLEAN THEIR BEACHES ONLY TO FIND THEM TRASHED AGAIN BY THE NEXT AFTERNOON IS QUITE FRUSTRATING. A STRONG RECYCLING MESSAGE IS REINFORCED AS PART OF THIS EFFORT.

SWEEP STREETS/CLEAN BEACHES

IN NEW JERSEY WE WILL ALSO BE SPENDING $2 MILLION DOLLARS ON A PROGRAM TO HELP SHORE MUNICIPALITIES PURCHASE BEACH CLEANING EQUIPMENT. AN ADDITIONAL $2 MILLION DOLLARS WILL GO TO SHORE MUNICIPALITIES TO HELP EQUIP THEM TO HELP STORM SEWERS AND

SWEEP THE STREETS BETTER AS WELL. THESE EFFORTS ARE BEING ADMINISTERED AS GRANT PROGRAMS UNDER OUR CLEAN COMMUNITIES PROGRAM, WHICH DISTRIBUTES $11 MILLION DOLLARS STATEWIDE TO HELP IMPLEMENT LITTER CLEANUP PROGRAMS.

NATIONAL MEASURES NEEDED

AS FAR AS FURTHER ACTIONS THAT NEED TO BE TAKEN AT A NATIONAL LEVEL TO CONTROL FLOATABLES, THE MAIN FOCUS SHOULD BE ON PUBLIC EDUCATION AND LEGISLATION THAT WOULD LIMIT THE PRODUCTION OF NONBIODEGRADABLE FLOATABLE MATERIAL PRODUCED. PUBLIC EDUCATION EFFORTS HAVE HAD A MARKED AFFECT ON LIMITING IRRESPONSIBLE ACTIONS THAT LEAD TO FLOATABLE DEBRIS IN THE WATERWAYS. WHEN RESIDENTS REALIZE THAT THROWING A STYROFOAM CUP IN A STORMSEWER WILL LEAD TO IT FLOATING UP ON OUR BEACHES OR IN OUR BAYS, THEY WILL STOP THIS BEHAVIOR. FEDERAL LEGISLATION THAT WOULD FUND A MULTIMEDIA CAMPAIGN AGAINST

LITTERING IN GENERAL AND EDUCATE THE PUBLIC ON THE NEED TO USE NONBIODEGRADABLE PRODUCTS IS A NECESSARY ACTION.

LIMITING THE PRODUCTION OF NONBIODEGRADABLE SUBSTANCES AND PROMOTING THE PRODUCTION OF BIODEGRADABLE SUBSTITUTES SHOULD ALSO BE NATIONAL INITIATIVE. NO ONE STATE CAN IMPLEMENT THIS INITIATIVE NOR TOTALLY SOLVE THE FLOATABLES PROBLEM BY THEMSELVES. DON'T MISUNDERSTAND, STATES DO HAVE A SUBSTANTIAL RESPONSIBILITY TO ASSIST IN IMPLEMENTING THE INITIATIVES, BUT FEDERAL LEGISLATION MUST SET THE NATIONAL STANDARD FOR PHASING OUT NONBIODEGRADABLE SUBSTANCES FROM THE MARKETPLACE. I URGE YOU TO CONSIDER LEGISLATION THAT WOULD START THIS PROCESS.

IN CLOSING, I WOULD LIKE TO STATE THAT WHILE I AM PLEASED WITH THE PROGRESS THAT WE HAVE MADE, I MUST ADVISE YOU THAT THE PROBLEMS WILL NOT END UNTIL WE HAVE CLEANED THE SHORELINES OF ALL THOSE COMMUNITIES WHICH BOARDER OUR STATES WATERWAYS, UNTIL WE HAVE COMPLETE STORMWATER CONTROLS IN PLACE, UNTIL THE

FRESHKILLS LANDFILL IS CLOSED AND UNTIL OUR RESIDENTS AND BEACHGOERS STOP LITTERING, THAT IS WHEN THE PROBLEM WILL GO AWAY. AS YOU CAN APPRECIATE THERE ARE NO EASY ANSWERS. I CAN PROMISE YOU THAT THE DEPARTMENT OF ENVIRONMENTAL PROTECTION WILL CONTINUE ITS DETERMINED COMMITMENT TO PROTECTING THE MARINE ENVIRONMENT. WE WILL ASK THAT SAME COMMITMENT FROM EACH RESIDENT OF NEW JERSEY AND OF THE REGION, AND WE ASK THE SAME OF THIS CONGRESS.

THANK YOU VERY MUCH FOR THE OPPORTUNITY TO TESTIFY BEFORE YOU TODAY AND I WILL BE GLAD TO RESPOND TO ANY QUESTIONS.

STATEMENT OF BRENDAN SEXTON, COMMISSIONER

NEW YORK CITY DEPARTMENT OF SANITATION

WATER RESOURCES, TRANSPORTATION, AND INFRASTRUCTURE
AND
SUPERFUND, OCEAN, AND WATER PROTECTION SUBCOMMITTEES
OF
SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE

PROGRAMS TO PREVENT FLOATABLE POLLUTION
IN THE
NEW YORK/NEW JERSEY HARBOR COMPLEX

ONE WORLD TRADE CENTER, 43RD FLOOR, NEW YORK, NEW YORK

MONDAY, JUNE 19, 1989 - 9:30

Thank you Senators Moynihan and Lautenberg and your subcommittee for the opportunity to testify on the important issue of floatable debris in the New York Harbor and explain my department's efforts to address this problem.

First, let me state that I agree with the findings in the United States Environmental Protection Agency (EPA) and New York State Department of Environmental Conservation (DEC) reports that conclude the sources of beach washups in our region are varied, and include stormwater outlets, combined sewer overflows, beach use, recreational boating, sewage discharges, as well as landfills and public and private marine transfer stations. Additionally, I agree that identification of the actual sources of the debris are difficult because floatables from one source are often like floatables from another. This inability to distinguish sources in turn makes it impossible to determine the proportion of material coming from any one source.

However, we all agreed last summer that the most likely potential source of the blood vials in particular was illegal dumping. I am very pleased to be able to tell you that my Environmental Unit, working closely with the United States Attorney from the Eastern District, New Jersey Attorney General, the FBI and District Attorney Elizabeth Holtzman's office, traced the blood vials discovered by a group of school children walking along Penny Beach in Staten Island to Plaza Health Laboratories. Last Wednesday with the U.S. Attorney we were able to announce that the grand jury had returned a two count indictment against Plaza Health Laboratories for illegally disposing 51 vials containing human blood into the New York Bay and the Hudson River in violation of the federal Clean Water Act. This indictment is very important especially since five of the blood vials were infected with the hepatitis virus. This indictment will signal to others that the government and the public will not tolerate this heinous crime to the environment. Because the hepatitis virus is a highly contagious virus and causes serious illness to people infected with the virus, the defendants also are charged with knowingly endangering the public under the federal Clean Water Act.

This indictment highlights the need to track the disposal of medical waste especially from clinics and laboratories since most of what they generate is of concern. In fact I would like to commend EPA and the federal government for development of the federal medical waste tracking legislation to address the floatable debris problem related to medical debris that plagued New York City and other regions last summer. My department also approves the stringent civil and criminal penalties imposed for violation of the Tracking Act.
EPA has recently promulgated draft regulations that would track this waste from cradle to grave from all generators. While small generators have stated their concerns to EPA, we hope the final regulations will not exempt any generator of medical waste.

New Jersey likewise has no small generator exemption and I continue to urge New York State DEC to eliminate the small generator exemption from their regulations. I continue to be concerned since legislation recently proposed by DEC to the legislature has an amendment to exempt small generators like doctors and dentists. We hope to work with DEC and the Legislature to address this issue. This manifest system has the potential to greatly assist the government in determining the individual who or entity that illegally disposes of medical waste.

Also, the Act does not explicitly state that municipalities shall receive a copy of the medical waste manifest. If the New York City Department of Sanitation were to receive a copy of the manifest, we would be supplied with a valuable enforcement tool for our Local Law 57 investigations. As a result, Sanitation believes the Act should be amended to require municipalities to receive a copy of the medical waste manifest.

It is important to note that should these amendments not receive the approval of the United States Congress, the City of New York will continue to propose similar amendments to Local Law 57. In addition, New York City is seeking to enhance the effectiveness of Local Law 57 by proposing other amendments such as: making the transportation or the solicitation or transportation of infectious waste by an unlicensed hauler unlawful; authorizing Sanitation inspections of public and private property to ensure compliance with the law and, in cases of an imminent threat to the public, closure of noncomplying facilities (except Public Health Law, Article 28 inpatient facilities); and imposing criminal penalties of between $2,500 and $25,000 or imprisonment or both, for any proven violation of Local Law 57.

As a result of judicially imposed safeguards and self-imposed safeguards, Sanitation has been directly addressing any floatable debris problem at our facilities. As you may know, the City's solid waste disposal system is operating under the constraints of a consent order filed in New Jersey federal court, to which the State of New Jersey and the Interstate Sanitation Commission, among others, are parties. The Interstate Sanitation Commission and the New Jersey Department of Environmental Protection, an independent marine engineering monitor hired pursuant to the consent order to act as a watchdog over our marine operation, and Sanitation's own Water Quality Monitoring Team, make regular unannounced visits to the Fresh Kills landfill and the marine transfer stations. These parties have kept our marine system under extraordinary scrutiny for more than a year now, and have made recommendations to us to further improve our system.

As a result of consent order requirements, suggestions by the independent monitor, and initiatives of our own, we have spent more than $25 million to clean up the waters at Fresh Kills, our marine transfer stations, and around our barges. The most significant recent improvements have been the placement of covers on all of our barges. All of the barges that are used to transport garbage from the marine transfer stations to Fresh Kills are covered by nets prior to leaving the transfer stations. The nets which are now dark in color will soon be white so you'll be able to see it more clearly!

Another recent improvement has been the installation of booms at all of our marine transfer stations. We have had booms at Fresh Kills for some time and I am very pleased that we are installing what is called a Superboom in June. This Superboom, which is $9.5 million, promises to be superior to the existing boom, thus reducing the potential for waste to escape while the boom is open. In my written testimony I have summarized other improvements we had made to our system like skimmer boats.

The following is a list and description of some of these improvements:

1. Skimmer Boats - Seven Skimmer boats operated by Sanitation are designed to remove refuse from the surface of the water and down to three feet below the water surface. The cost: $1,750,000.

2. Boom/lock System - This system consists of range and outer ("third") booms (floatable bubbles similar to those used as swimming pool dividers) that operate in conjunction with fifteen foot skirts (netting that is attached to and lies below the booms). The system is designed to trap debris so that debris can be captured by Sanitation skimmer boats before it can escape into outside waterways. The range boom must be closed before the outer boom is opened and these booms may only be opened when a barge is entering or departing from Freshkills; the boom/lock system, therefore, operates in a manner that affords maximum protection to the waterways.

3. Hydraulic Crane - This crane was delivered to Fresh Kills on August 4, 1988 and is currently being tested. The cost: $2.4 million. This crane is expected to aid in substantially reducing the spillage of refuse from the crane bucket into the water.

4. Sidewalls on Trestle Bridge - Sanitation installed sidewalls on the trestle bridge at Fresh Kills. These steel walls are designed to prevent any litter from falling off the athey wagons (tractor-like units with wagons attached) while the wagons are

crossing the bridge in route to the Fresh Kills active face, becoming windblown and entering the water.

5 Spill wagon - The purpose of the spillwagon is to bridge the gap between the barge deck and the bulkhead of the unloading area to reduce the amount of waste which might fall into the water while the barge is being unloaded. Sanitation has fabricated three spillwagons, is fabricating two more and modifying them to increase their effectiveness. The total cost is estimated at $197,500.

6. Litter fencing at Fresh Kills - In addition to over four miles of existing fencing at Fresh Kills, Sanitation has spent $2.6 million on additional litter fencing along the water at Fresh Kills. Last September, Sanitation hired three additional full-time attendants to clean any litter which could accumulate on or near the Fresh Kills litter fencing.

7. Dipnets - Sanitation has designed dipnets to retrieve floating litter from the water near the shoreline of its marine operation. Sanitation has assigned eight employees whose sole task is to use these nets at an annual cost of approximately $237,000.

8. Marine Transfer Stations (MTS) - Sanitation installed security fencing, a gate and a lock at the Southwest Brooklyn MTS, and a containment boom with a fifteen-foot skirt across the slip (a cubicle into which the barge enters to be loaded) at this facility, but removed it when the plaintiffs in the Woodbridge suit agreed that its presence was unnecessary. Sanitation also commissioned an MTS study, which resulted in various recommendations to the Department for design and hardware modification at the MTSs. Sanitation has begun the initial work suggested by the consultant.

9. Barge Covers - Though consultant studies demonstrate very little debris falls off our barges during transport, in compliance with the Federal Shore Protection Act, Sanitation has covered its fleet of barges. Sanitation has decided to use polyethylene netting as, at least, an interim barge cover. The initial outlay of hardware to secure and roll the netting will be approximately $500,000. The annual cost: $1 million for netting; personnel costs are yet to be determined.

10. Isle of Meadows - Sanitation has spent approximately $1,954,170 to clean up the island. Sanitation has developed plans to construct a fence in order to totally enclose the isle and make it impossible for the island to become a source of waterborne litter. The fence will cost approximately $710,000.

As you will hear from others today, there is a Floatable Debris Task Force which has been formed by the EPA to study the sources of pollution and to develop a short and long term plan to deal with the floatable debris problem in New York Harbor and its tributaries. The Task Force includes the United States Coast Guard, the United States Army Corps of Engineers, the New Jersey Department Environmental Protection, the New York City Department of Sanitation and Environmental Protection, and the New York State Department of Environmental Conservation. EPA is to be commended for coordinating this task force and I believe that as result of this effort we will be able to sight slicks of floatables and clean them before they reach the beach. As part of the tasks force's first major effort, all participants working in the vicinity of New York Harbor will report sightings of floatable debris to the EPA. Helicopter surveillance of the Harbor will be done by the EPA and the New Jersey Department of Environmental Protection and boat surveillance will be done by the United States Coast Guard and the Corps of Engineers. Sanitation will perform surveillance in the vicinity of the Fresh Kills landfill. Three Corps of Engineers drift vessels will be equipped with specially designed nets which are capable of efficiently collecting and cleaning-up the floating debris in the Harbor. Sanitation will accept and dispose of debris collected by the Corps in the Harbor. We will either moor garbage barges next to the clean-up vessel, place dumpsters at convenient locations, or make a barge available at a convenient Sanitation transfer station, whichever method the Corps chooses. Sanitation is part of a coordinated federal, state and local effort to keep our waters and beaches clean this summer.

Last, you asked for comment on Senate bill number 506 which authorizes the Corps of Engineers to collect and remove all floating material wherever it is collecting and removing debris from New York Harbor which is an obstruction to navigation. I am very much in favor of this legislation. This will make clear that the Corps of Engineers mission now includes the very important task of removing floatable material from New York Harbor. As you can see, Sanitation is working with local, state and federal agencies to confront the floatable debris problem head-on.

3513

TESTIMONY OF
WILLIAM J. MUSZYNSKI
ACTING REGIONAL ADMINISTRATOR, REGION II
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON SUPERFUND, OCEAN, AND WATER PROTECTION
AND THE
SUBCOMMITTEE ON WATER RESOURCES, TRANSPORTATION AND INFRASTRUCTURE
OF THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

JUNE 19, 1989

Good morning, I am William Muszynski, Acting Regional Administrator, Region 2. I am pleased to be here today and I thank the Subcommittees for the opportunity to discuss our region's perspective on the problem of floating debris (plastic, wood, paper, medical waste, etc.) washing-up on the beaches of New Jersey and the south shore of Long Island, New York that occurred in the summers of 1987 and 1988. Debris floating in our waterways and up on our beaches is, unfortunately, not a new problem. However, these recent incidents have greatly heightened public awareness of the issue and have led to a demand that something be done about it, particularly with respect to medical wastes.

My testimony will focus on what EPA has done to identify the sources of this material and will describe some concrete actions now underway that we believe will get us on the road to solutions.

There has been considerable speculation as to the cause or causes of beach wash-ups. To better understand these events, EPA undertook three months of helicopter surveillance (November 1987 to January 1988) and on-site investigations of floatables accumulation and movement in the New Jersey/New York Harbor Complex. This study identified combined sewer overflows, stormwater runoff, beach and pleasure vessel litter, inadequate solid waste handling, wood from decaying piers and derelict vessels, and resuspension of the materials already deposited on the shorelines as the significant causes of floatable pollution. Our look at the dynamics of floatables pollution also showed that the greatest amount of floating debris and the largest slicks occur following heavy rains and at the time of the high lunar tides from a full or new moon.

To further our understanding of floating debris in the New York Bight Area, EPA's Ocean Survey Vessel, the Peter W. Anderson, collected debris along different transects within the New Jersey/New York Harbor, as well as along perpendiculars to the New Jersey and Long Island shorelines. The survey was conducted from August 29 through September 1, 1988 following severe rainstorms, a full moon and the highest spring tide of the year. This study showed that the outflow from the New Jersey/New York Harbor was the significant source of debris floating into the New York Bight; it also showed that the floating material typically forms into garbage slicks in predictable ways.

EPA also conducted studies of the floating debris in New York Harbor in November 1988 as part of a national assessment of floating debris. Nine U.S. harbors were sampled in this national survey. The November survey found the same types of materials in the harbor as the August survey, which shows that the Harbor is a source of floating debris throughout the year.

In August 1988, we formed an Interagency work group to develop a floatables action plan as part of the New York Bight Restoration Plan. Our goal in forming this work group was to develop a new plan for lessening the floatables problem that could be implemented before the summer of '89 (this summer). On March 7, 1989, EPA, along with six other federal, State and New York City agencies, announced a joint effort to monitor and actually collect floating debris in the New York/New Jersey Harbor complex from May 15 to September 15, 1989.

The plan contains four key elements:

Surveillance--Helicopter patrols of the Harbor complex by the New Jersey Department of Environmental Protection (NJDEP), EPA and the United States Coast Guard (USCG) to look for slicks of floating debris. In addition, USEPA and USCG will routinely patrol the Harbor Complex by vessel;

Regular Cleanups--The United States Army Corps of Engineers (USACE) currently collects drift and other debris that constitute a hazard to navigation in Yew York-Harbor. As an adjunct to its normal debris collection activities, USACE will carry out routine cleanups with its vessels utilizing new specially designed nets provided by the States of New York and New Jersey. Regularly scheduled cleanups will take place at the Narrows and Arthur Kill one day before, the day of, and one day after new and full moon high tides and following significant storms that cause combined sewer overflows. The New York City Department of Sanitation (NYCDOS) will supply barges and allow the USACE access to Marine Transfer Stations to dispose of the collected material;

Non-routine Cleanups--During its normal debris collection activity, USACE will also attempt to capture slicks observed and reported to the agencies within the Harbor complex. NJDEP will also utilize fishing vessels to capture slicks. In cases where slicks escape collection, State coordinators will notify local authorities of potential wash-ups so that they can plan beach cleanups in a timely way;

Communications Network--EPA will function as the center of the reporting network and coordinate cleanup activities.

This plan is a very significant piece in an overall effort by many agencies to attack coastal pollution. Other efforts include:

(1) The State of New Jersey's "Operation Clean Shores" which will remove floatables debris from the western shore of the Harbor Complex; (2) the State of New York's Beach Information Network, beach cleaning guidelines, and guidelines for handling and disposal of washed-up debris; and (3) EPA-funded national beach cleanups using volunteers to survey and remove debris from U.S. beaches. The EPA-funded national beach clean-ups during Coast Weeks in 1988 involved 47 thousand volunteers cleaning beaches in 25 States including New York and New Jersey.

While I expect these coordinated efforts to reduce significantly the amount of floatable materials washing up on the beaches this summer, I recognize they are not the most effective way of dealing with this problem in the long run. Nor will they end problems at the beaches. The most effective solution is to prevent the pollution from getting into our waters in the first place.

As I noted above, combined sewer overflows (CSOs) have been identified as a major source of floatables pollution. In the New Jersey/New York Harbor Complex there are over 600 CSOs located in New York City, Newark, Jersey City, Hoboken and other cities that discharge wastewater into the complex.

What is needed now at the local level is (1) development of low cost structural methods for the control of floatable materials, (2) development of a program to educate the public as to what materials should not be flushed into the sewer system from their households, and (3) maximization of the storage capacity of the sewer systems and optimization of sewage treatment plant operations.

We have recently begun a study to evaluate low cost floatable controls for CSOs that could readily be implemented in the short term, and are pursuing the development of a public education program.

I would also like to share some of the Agency's experiences and findings with respect to the medical waste problem and our progress in carrying-out the Medical Waste Tracking Act of 1988. Pursuant to this act, which was signed into law on November 1, 1988, EPA published, on March 24, 1989, an Interim Final Rule and request for public comment. The public comment period ended on May 23. The demonstration project which is mandated by the Act has an effective starting date of June 22, 1989.

The Medical Waste Tracking Act describes a federal program that concentrates foremost on establishing in pilot States a cradle-to-grave system for tracking medical wastes from their point of origin to their final destination. However, it also establishes handling, packaging, labeling and storage requirements, and subjects violators to administrative, civil and criminal penalties. As noted by a sponsor of the bill, the tracking system is intended to work as a "Burglar Alarm" alerting EPA and State officials whenever waste has not reached its intended destination, leaving a paper trail that will lead to the violators.

The Agency must ensure that the general public and interest groups are provided with the information necessary to understand the nature of this problem and are kept fully informed of all program developments, including program requirements. EPA plans to develop public outreach materials to address public concerns and information needs and to demonstrate EPA's commitment to the program. Target audiences will include the general public, health care institutions and providers, trade associations, waste management firms, and environmental interest groups.

Specifically, in June, EPA will host a series of medical waste seminars in New Jersey and New York to assist the regulated community to comply with both federal and State medical waste requirements. We are also providing direct technical assistance to States that have experienced infectious waste mismanagement incidents.

We also plan to develop a Bio-Medical Health and Safety Training Program for EPA employees and contractor personnel who will be used to inspect and enforce the regulation. This training will also be made available to State and local governments.

Another major component of our program will be a comprehensive enforcement strategy. In support of this, we are working with the States to develop Memoranda of Understanding and State Enforcement Agreements for long-term implementation of the medical waste program.

The committee has also raised concern over the problem of waterborne wood-burning byproducts peculiar to New Jersey. Let me assure you that the current wood-burning controls have virtually eliminated wood-burning at sea as a source of this material. Also, air quality monitoring has been conducted that demonstrates no air quality standards are violated at the shoreline. The controls placed on the wood-burning operations include but are not limited to:

(1) Wood-burning is not allowed from May 25, 1989 to September, 1989, the beach season.

(2) All burn barges must be equipped with 8-foot high stanchions and fences to prevent wood from falling off the side enroute to the burn site.

(3) Wood-burning cannot commence if the forecast is for onshore winds.

(4) Barge transit must be conducted during daylight hours, and a trailing vessel must provide 24 hour a day surveillance from the time the barge leaves the port until it returns. The trailing vessel retrieves any wood which enters the water.

(5) An independent ship rider approved by EPA is required on each wood-burning operation.

(6) Waste characteristics for specific projects must be completed prior to initiation of burn.

(7) As part of a special agreement with the Region, NJDEP acts as EPA inspectors during wood-burns to insure that all permit conditions are being met.

As I pointed out earlier, debris wash-ups have occurred for years and probably will continue until all sources are addressed. We must build on the major commitment that our society has undertaken to protect and enhance our environment. We have directed significant financial and human resources to the successful construction of sewage treatment plants, stricter controls on industrial discharges, and the movement to end ocean dumping by December 31, 1991. However, the growth and development occurring along our coastlines will have to be carefully managed at the local level to preserve the integrity of our estuaries, bays, and marine waters and demands continued dedication and action.

In the region, we have underway several comprehensive studies aimed at better understanding our Near Coastal Waters & Estuaries--the New York Bight Restoration Plan, the NY/NJ Harbor Estuary Study, Long Island Sound Study, and Delaware Estuary Study--that will help define the whole range of forces that are stressing our part of the ocean. I am hopeful these efforts will point to a series of solutions that will safeguard this vital resource over the long term. Within these studies we will work to develop and to implement practicable short range solutions as soon as possible. Carrying out these solutions will require a concerted effort and commitment by all levels of government and by individual citizens who must become more aware of their own solid waste generation and disposal practices. We must ensure that all wastes are properly managed to protect human health and the environment.

Thank you for your attention. I will be pleased to answer any questions.

UNITED STATES ARMY
CORPS OF ENGINEERS

COMPLETE STATEMENT

OF

LIEUTENANT COLONEL RICHARD C. BOSTON
ACTING NEW YORK DISTRICT ENGINEER

BEFORE THE SUBCOMMITTEES ON

WATER RESOURCES,
TRANSPORTATION AND INFRASTRUCTURE

AND

SUPERFUND, OCEAN AND WATER PROTECTION

COMMITTEE ON ENVIRONMENT
AND PUBLIC WORKS

UNITED STATES SENATE

ON

FLOATABLES POLLUTION

JUNE 19, 1989

NOT TO BE RELEASED UNTIL APPROVED BY THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

U. S. ARMY
CORPS OF ENGINEERS
COMPLETE STATEMENT OF
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JUNE 19, 1989

INTRODUCTION

Chairmen and members of the Subcommittee, I am Lieutenant Colonel Richard C. Boston, the Acting New York District Engineer, U. S. Army Corps of Engineers. I am pleased to be here this morning on behalf of the Secretary of the Army to discuss floatables pollution. As you requested in your letter of invitation, I will address the Corps' drift collection mission in New York Harbor, our support of the interagency floatables task force's efforts to reduce floatables landing on recreational beaches, recommendations for controlling floatables, and S. 506.

DRIFT COLLECTION ACTIVITIES

The Rivers and Harbors Appropriation Act of 1915 authorized the Corps of Engineers to collect floating debris which constitutes a hazard to navigation. The greatest economic impact of this hazard has been damage caused to vessels. The collection of debris is accomplished by the use of specially designed vessels which skim the waters of the harbor with steel mesh nets which collect and hold the floating wood and timber. The wood and timber is disposed of by incineration on a floating barge. Until 1969, this burning was performed inside the harbor. During the 1970's the burning site was moved to its present location in the ocean. Approximately one-half million cubic feet of timber and wood is removed annually from the navigation channels and anchorage areas of the harbor. This includes sunken timber vessels, which were specific obstructions to navigation.

In 1974, Congress amended the Rivers and Harbors Appropriation Act of 1915, to authorize the Corps of Engineers to attack the drift problem at its source. The amount of drift material that needed to be collected was increasing as piers, wharfs and other shoreline structures were abandoned and fell into disrepair. The timber from these structures was falling into the waters and navigation channels at an increasing rate. It became much more cost effective to remove the timber at the shoreline before it fell into the waterways and overwhelmed the collection vessels.

This removal at the source is cost shared with the states at a rate of two-thirds Federal, one-third state. Approximately four million cubic feet of timber is removed annually by contract under this part of the program. This material is also disposed of by incineration at sea.

INCINERATION AT SEA

The incineration is regulated under a permit from the U.S. Environmental Protection Agency (USEPA). The provisions of the permit focus on eliminating any possible impact of debris upon recreational beaches and include the following:

* Incineration is not permitted between Memorial Day to Labor Day.

* The incineration barge has a steel mesh fence around it to contain the wood debris during transportation and incineration.

* The barge is followed by a vessel known as the trail boat to observe the barge and pick up any wood that may fall through the fence.

* The ashes from the incineration are disposed of in landfills.

* A Corps of Engineers employee, certified by the USEPA, accompanies the contractor and provides Government oversight during the entire incineration trip.

FLOATABLES PLAN

The next point I will discuss this morning is the extent of the Corps participation in the interagency floatables task force's efforts for this summer.

As others will explain in more detail, the task force was established to develop a strategy to reduce the probability of recreational beach closures due to floatables. The Corps participation in this effort is based on the recognition that a contribution to this goal can be realized as an adjunct to Corps debris collection activities.

The States of New York and New Jersey have provided new collection nets for use by our vessels. These nets have a mesh of approximately two inch squares rather than the half-foot mesh we normally use, enabling the collection of smaller sized items. Using these nets, and as a normal part of its debris collection activities, the Corps pursues an intensive collection effort during the full and spring moon high tides to attempt to minimize floatables from leaving New York Harbor.

The Corps vessels are positioned at areas near the mouth of the harbor where there is a very high probability of floating debris collecting in slicks. These areas were selected based upon the knowledge gained last summer and the Corps experience in collecting drift in the harbor.

Because the non-wooden debris collected cannot be incinerated at sea, the City of New York Department of Sanitation is providing refuse barges near our work sites where the nets can be emptied of all debris, including that normally disposed of by the Corps. This procedure maximizes the time our vessels can be collecting and relieves the Corps of its disposal problems. This cooperative effort thus benefits all parties involved and is consistent with our authority to collect drift that is a hazard to navigation. It is being, and will continue to be accomplished at no added Corps expense.

The interagency floatables task force response has been in operation for twelve days during the last five weeks. During this period we have experienced two spring tide events and responded to several rainfall debris events. We collected approximately two hundred and sixty tons of material during the twelve days. Approximately ninety percent of the material collected was wood or timber. The Corps participation in the program will be reevaluated after the end of the recreation season.

CONTROL OF FLOATABLES

The floatable trash problem is the direct result of people, whether intentionally or unintentionally, discarding trash anywhere in the shore region, along the highways or even from boats. Eventually, this debris can find its way into the harbor. Controlling these sources of floatables is dependent on the enforcement and strengthening of existing laws, the support and education of the public, and the continuation of programs like shore line cleanup campaigns. The control of other sources of floatables, such as combined sewer outfalls, would be better addressed by other Federal, state and local agencies represented here today.

S. 506, 101st CONGRESS

The final point I wish to discuss this morning is your request for the Department of the Army comments on S. 506, 101st Congress, a bill to "To authorize the Corps of Engineers to collect and remove all floating material whenever it is collecting and removing from New York Harbor debris which is an obstruction to navigation." S. 506 requires the Army Corps of Engineers to clean up garbage floating in New York Harbor as an adjunct to its program for the removal of floating drift wood that may affect navigation in the harbor.

The Department of the Army recently objected to a similar bill, H. R.906, 101st Congress, because the garbage pollution problem falls under the jurisdiction of the USEPA. In light of recent efforts by the USEPA to address this problem through the intergovernmental task force and the New York Bight Floatables Action Plan, the Department of the Army does not support any legislation expanding the Corps of Engineers existing navigation mission for the New York Harbor drift removal project to include garbage cleanup. However, we are an active member of the intergovernmental task force, and we stand ready to provide assistance in implementing the plan.

Mr. Chairman, that concludes my statement. I would be pleased to address any questions you or other members of the subcommittee may have.

FLOATABLE MARINE DEBRIS: OUTLOOK FOR THE FUTURE

Testimony of Dr. R. Lawrence Swanson

Director
Waste Management Institute
Marine Sciences Research Center
State University of New York
Stony Brook, New York 11794-5000

before the

United States Senate
Subcommittees on Water Resources,
Transportation and Infrastructure, and
Superfund, Ocean and Water Protection

World Trade Center
New York

19 June 1989

I would like to thank Senators Moynihan and Lautenberg for the opportunity to speak on the topic of floatable marine debris in New York and New Jersey coastal waters. Indeed this topic is important to our economic well-being, our confidence in the health of the environment, and our concern for the safety of the public. I would like to begin with a brief overview of the research that the Waste Management Institute (WMI) at The Marine Sciences Research Center, State University of New York at Stony Brook, has done with respect to floatable marine pollution.

During the summers of 1987 and 1988, the New York Bight experienced a series of incidents whereby waterborne floatable waste materials and debris were stranded on ocean beaches. Floatable medical type wastes were of particular concern. Their volume was small, (less than 1% by weight or volume), but as with sewage wastes, concern centered around the issue of public health. Why these wastes are appearing more frequently is not certain; however, there are several possible contributing factors:

1. a marked increase in disposable medical care materials;
2. an increase in the use of drug paraphernalia that are flushed down toilets and washed down storm sewers, and

3. an increase in illegal disposal of medical wastes as a consequence of the increased costs of disposal.

Illegal disposal into marine waters was probably a relatively minor source of floatable medical wastes during the 1987 and 1988 events. Some medical wastes are mixed in carelessly with domestic solid waste by small health care facilities, including doctors, dentists, clinics, laboratories, veterinarians and chronic home based patients. Some of this material escaped to the harbor along with other garbage and trash as it was transferred to barges and transported to the Fresh Kills Landfill. Many of the needles and syringes however, appear to have come from drug users and others who inappropriately dispose of these materials on the streets or in toilets.

Last summer, when news of floatables washing up on area beaches first appeared in the headlines, the Waste Management Institute examined the sources of these materials. Not surprisingly, the sources of materials were the same in 1988 as in 1976, when similar strandings of floatable wastes (but without noticeable quantities of medical-type wastes) occurred on the south shore of Long Island. These sources included; combined sewer outfalls (CSOs), wastewater discharges, solid waste handling operations, commercial ships, fishing vessels and recreational boaters, and beach users. Accidental releases of floatables occu on occasion and include spills of raw sewage from treatment plant malfunctions, oil spills, and other accidents of various types.

In addition to examining the sources, we compared the climatology of the summers of 1987 and 1988 with that of 1976. The summer wind records of these years were then compared with the historical wind record of 1959-1988. These analyses indicated that an unusual set of conditions prevailed in 1976, 1987, and 1988 which caused the washup of floatables on ocean beaches of the area.

Once floatable materials are flushed into the Bight, they are subject to the winds and currents operating on coastal waters. Most frequently they will be carried along the New Jersey coast, often cluttering the beaches at Sandy Hook, New Jersey. Often the winds will drive the floatables out to sea, particularly during the winter. During summer months the winds are generally out of the south. But these mean winds occasionally vary considerably from the norm and can drive floatables ashore either on Long Island or New Jersey beaches. That is what happened in 1988, 1987 and 1976. In 1988 and 1976 the usual southerly winds intensified and blew more persistently from the south creating major washups on Long Island. In 1987, the winds were much more variable than normal with a considerable easterly component driving material ashore in New Jersey. In all three years the winds were significantly different from the norm. Combining the unusual winds with heavy rains that create conditions for releasing many floatables to marine systems can cause a major floatable event.

While major washups of floatable wastes are unusual we now know under what conditions they are likely to occur. More research needs to be done in this area. This summer, the Waste Management Institute will continue its endeavors to analyze oceanographic and meteorological conditions that contribute to major floatable events and advise Federal, State and local agencies as appropriate. We are indebted to the National Weather Service, Eastern Region for periodically providing weather information to aid in our analyses.

In March 1989, the Waste Management Institute sponsored a conference entitled **Floatable Wastes in the Ocean: Social, Economic and Public Health Implications.** This conference was attended by over 100 people from various Federal, State, and local agencies; the medical profession; the fishing industry; environmental organizations; and concerned private citizens. The conference summarized what is currently known about floatable and medical-type wastes - what they are, where they come from, and how they get to area beaches. Social, economic, and health impacts on the local region were discussed. I would like to summarize a few of the more salient points:

1. There is no evidence to suggest that public health is threatened by the washup of medical wastes - the risk of acquiring AIDS through floatable routes is close to zero.
2. Seafood products are not contaminated by floatable wastes.
3. Fish and shellfish cannot transmit the HIV virus. There is no known mechanism for transferring the AIDS virus to finfish or shellfish via floatables.
4. Floatables, while being primarily an aesthetic problem, have had a significant negative impact on the New York/New Jersey economy. The loss to Long Island was at least $1.0 billion in 1988.
5. In order to revive the economy it is important to reduce the floatable load. The most effective way is to attack the sources beginning with the individual. Other long and short term remedial actions are being implemented by the Federal, State and local governments.

Since last summer, Federal, State and local programs have been implemented to help collect and reduce the volume of floatable material reaching marine systems and to educate beach operators concerning appropriate response procedures should washups occur. Most notable among these are the EPA coordinated short term floatable action plan to collect floatables in the Hudson-Raritan Estuary. In this regard it is important to implement the provisions of S.506 that authorizes the Corps of Engineers to collect and remove floatable debris in New York Harbor and hopefully the entire Hudson-Raritan Estuary.

Other significant programs include the efforts of New York State and New Jersey to clean area beaches, New York City's actions to reduce leakage during the marine transfer and transport of garbage and trash, and New York State's implementation of a Beach Information Network. All the agencies deserve credit for their responsiveness to the floatable problem and their close cooperation.

To further aid this coordination, the COAST (Coastal Ocean Action Strategies Institute) and Waste Management Institute of the Marine Sciences Research Center at SUNY Stony Brook brought together legislators and agency heads from Federal, State, and local governments of New York, New Jersey and Connecticut to formulate an integrated and uniform plan of action to remove floatable wastes from our marine environment. This plan is based on existing actions, plans, guidelines, and recommendations of many agencies in the tri-state area that are concerned with floatables. The COAST plan integrates the existing plans and expands them where necessary, to formulate a more comprehensive and coordinated plan. For example, Federal beaches and private beach clubs may not be included under the existing beach operator guidelines generated by the states. The COAST plan suggests that they be included.

The COAST plan also includes steps to be taken where none were previously provided by existing plans, such as the undertaking by WMI this summer to analyze transport processes for the region. This integrated plan should serve as a model for other coastal states that are also prone to the wash ups of floatables such as Florida, Massachusetts and Texas. A copy is provided for your use.

A question and answer booklet, which addresses the most often asked questions concerning floatable wastes and medically-related floatable wastes, is also being published through the Marine Sciences Research Center. This booklet will serve as outreach and public education material. The Marine Sciences Research Center is dedicated to public education, which is a vital component for the long-term management to the floatable problem. A draft copy of this publication is also provided.

Despite these concerted efforts several people have already been stuck by syringes - syringes most likely washed into area waterways from streets or domestic sanitary facilities served by CSOs during our record May rains. This emphasizes the fact that most activities now in place are not solutions to the floatable problem. They are stop gap measures. Longer term solutions are needed - many of which are identified by the operating agencies. Let me, however, list some long term solutions that I believe are important and which need commitment at all levels of government, industry, and individuals. I am concerned that if the floatable problem slips from public visibility the longer term solutions will be ignored in a need to focus decreasing public resources on other pressing issues. There is precedence for this as evidenced by our actions or lack of actions following the 1976 floatable event.

Source reduction is a key to the overall problem of waste management, reducing the total volume of potentially floatable materials. With regard to medical wastes, the medical profession and its suppliers must examine the real need for its disposable supplies. Perhaps 20-30% of hospital waste is plastic compared to 3-6% for municipal solid waste; most of the former being derived from single-use disposable items. Nevertheless, the need for sterility in most such supplies and the increasing complexity of health care will limit the extent to which source reduction will decrease generation of medical waste. An additional important component of limiting inappropriate medical waste disposal will be making approved disposal techniques convenient and less costly. Thus, on-site and regional incineration and development of alternative disposal technologies may play an equally strong role in limiting the extent of waste transport and the attractiveness of illegal disposal methods.

Educational programs should be designed to encourage beach users and recreational boaters and marina operators to be more conscientious concerning proper waste disposal. Expanded disposal facilities should be available at all beaches and marinas, and the frequency of trash removal increased. Governments and businesses can perhaps work together to create incentive programs to reduce beach littering and over-the-side disposal. The State of New Jersey is already instituting these types of programs. In New York perhaps a free beach parking pass might be awarded for those that turn in a bag of garbage.

There have been some improvements in the overall floatable waste problem in recent years. Specifically, the volume of raw sewage discharged in the metropolitan area has been reduced nearly two orders of magnitude since 1976. There is also the rudiments of a long-term program to control CSOs in New York City. It is important to keep this program on schedule.

There are, however, other important efforts that should be undertaken to reduce the quantity of potential floatable materials. Backup electrical generators should be available at sewage treatment plants to maintain primary treatment during power shortages such as occurred at the Port Richmond plant in late June 1988. Operation and maintenance funds should be increased to significantly raise plant operating efficiencies.

Coastal communities might deliberately flush storm sewers prior to the opening of the beach season along with increasing street cleaning during summer months.

Government and industry should work together to reduce the need for superfluous packaging. Plastic products that are particularly offensive as beach litter - often those associated with sewage - might be prime candidates for some of the new degradable plastic technologies.

Hopefully the improvements currently in place and implementation of these proposed changes will significantly reduce the volume of floatables reaching the Atlantic Ocean. It must be realized that local climatic conditions just before and during summer lead to large floatable loads in the harbor and ocean.

Unfortunately, both Long Island and New Jersey beaches are vulnerable to the washup of floatables. The south shore of Long Island is particularly vulnerable during summer.

As in the past, the Waste Management Institute will gladly do all it can to assist the various agencies at all government levels, through its research, educational, policy analysis, and outreach programs.

I would like to close today by stating that Long Island and New Jersey are home to some of the most beautiful beaches in the nation. The plans and activities enumerated here are to ensure that the beaches continue to be of the highest quality and to take a national lead in reducing what has become a more global issue of marine floatable debris.

marine sciences research center

MARINE SCIENCES RESEARCH CENTER, STATE UNIVERSITY OF NEW YORK, STONY BROOK, N.Y. 11794-5000 (516) 632-8706

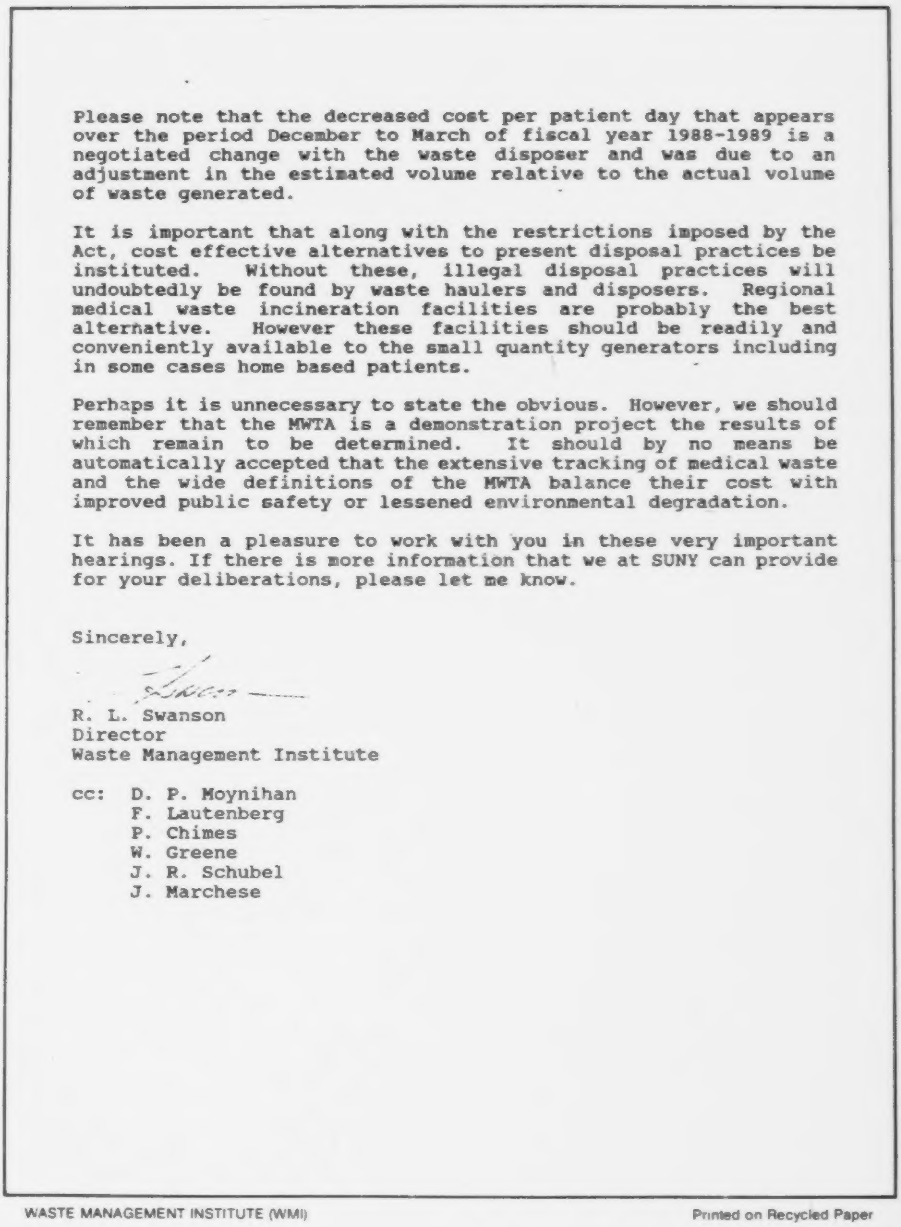
July 26, 1989

Senator Joseph I. Lieberman
123 Senator Hart Office Building
Constitution Avenue and Second Street NE
Washington, D.C. 20510

Dear Senator Lieberman:

I indicated to you at the field hearing of the Subcommittee on Superfund, Ocean, & Water Protection, Water Resources, Transportation and Infrastructure on 19 June 1989 that I would try to provide some additional information regarding costs that may be associated with implementation of the Medical Wastes Tracking Act (MWTA).

Mr. John Marchese, Assistant Director of Environmental Health and Safety, University Hospital, SUNY at Stony Brook has kindly supplied the attached report that documents the changing costs of the disposal of infectious waste. This is an interesting report in that it documents a 230% increase in cost per patient day over the last five fiscal years. These increases were due to changes in state and local environmental laws (including those associated with Long Island's landfill problems) that greatly increased the cost per pound of infectious waste disposed and the volume of waste considered "infectious" and requiring special disposal. They also came about from restrictions placed upon us by local landfill workers who misunderstood and exaggerated the dangers of medical waste and therefore unilaterally further expanded the definition of infectious waste beyond any then accepted limits. A similar expansion, to a considerable degree, is a likely outgrowth of some passages of the MWTA. Thus, in many ways the increases in costs we incurred can be considered reflective of what hospitals in other communities will experience as a consequence of the MWTA. It remains to be seen how much further our costs will be increased as a consequence of the Act.



Please note that the decreased cost per patient day that appears over the period December to March of fiscal year 1988-1989 is a negotiated change with the waste disposer and was due to an adjustment in the estimated volume relative to the actual volume of waste generated.

It is important that along with the restrictions imposed by the Act, cost effective alternatives to present disposal practices be instituted. Without these, illegal disposal practices will undoubtedly be found by waste haulers and disposers. Regional medical waste incineration facilities are probably the best alternative. However these facilities should be readily and conveniently available to the small quantity generators including in some cases home based patients.

Perhaps it is unnecessary to state the obvious. However, we should remember that the MWTA is a demonstration project the results of which remain to be determined. It should by no means be automatically accepted that the extensive tracking of medical waste and the wide definitions of the MWTA balance their cost with improved public safety or lessened environmental degradation.

It has been a pleasure to work with you in these very important hearings. If there is more information that we at SUNY can provide for your deliberations, please let me know.

Sincerely,

R. L. Swanson
Director
Waste Management Institute

cc: D. P. Moynihan
F. Lautenberg
P. Chimes
W. Greene
J. R. Schubel
J. Marchese

WASTE MANAGEMENT INSTITUTE (WMI)

Printed on Recycled Paper

INFECTIOUS WASTE STATISTICS

UNIVERSITY HOSPITAL

Fiscal Years: 84-85
85-86
86-87
87-88
88-89

Prepare by John Marchese
Environmental Health & Safety
SUNY Stony Brook

Infectious or "Red Bag" waste has been generated at University Hospital since its opening in February, 1980. At that point, the waste was relatively easy and inexpensive to dispose of. The volume was very small. We had investigated the applicable regulations regarding this type of waste at that time and found no specific requirements. University Hospital's Infection Control Committee worked to develop a policy and definition for Infectious Waste and its disposal. This policy was very strict in comparison to other Hospitals and recommendations by the Center for Disease Control. As infectious waste became more of a concern to communities, it became an issue with state and local regulators. Therefore, regulations began to appear, raising the costs of waste disposal. The early contractors could no longer hold costs while doing business in the new regulatory environment. In addition to price increases, concerns were aired by the local landfill, questioning materials which were disposed in the regular trash, but "looked" infectious.

In the Spring of 1986, the University Hospital had not only received a large cost increase, associated with regulatory restraints placed on transporters and additional packaging requirements, it also experienced an increase in volume of waste associated with the concerns of the landfill. Workers there refused to "push" loads which contained "questionable material". In order to avoid the high costs associated with not being able to use the landfill, University Hospital's definition of infectious waste was altered to include material which was "perceived" to be infectious. Costs increased from approximately $1.50/patient day to $5.00/patient day.* Through negotiations with contractors, costs were contained somewhat. In addition, a new Sharps Disposal Program was instituted in July 1987 both for protection of workers within the Hospital and to decrease the number of "sharps" accidentally disposed of in the general trash.

The Medical Waste Tracking Act, we feel, will have little effect on the amount of infectious waste generated, since University Hospital has been segregating their wastes based on its appearance to landfill workers. Approximately 45% of the total solid waste of the Hospital is disposed of as infectious. Most Hospitals have had approximately 15-20% of their waste classified as infectious. Recently we have been told by transporters, these Hospitals have tripled their volume of waste generated due to the Medical Waste Tracking Act.

*This was the cost associated only with disposal, not including labor and administrative costs associated with this program.

ANNUAL REPORT OF INFECTIOUS WASTE - FISCAL 84 -85

MONTH	PATIENT DAYS	TOTAL COST	COST PER PAT. DAY
APRIL	7923	$3,927.30	$.50
MAY	8554	$2,811.00	$.33
JUNE	8006	$2,077.10	$.26
JULY	9151	$2,766.80	$.30
AUGUST	9066	$2,192.80	$.24
SEPTEMBER	8622	$2,358.60	$.27
OCTOBER	9229	$3,963.30	$.43
NOVEMBER	8673	$3,471.30	$.40
DECEMBER	8517	$5,210.70	$.61
JANUARY	9047	$4,183.10	$.46
FEBRUARY	8400	$3,026.70	$.36
MARCH	9431	$4,131.90	$.44
TOTAL	(AVERAGES)	$40,120.60	$.38

ANNUAL REPORT OF INFECTIOUS WASTE - FISCAL '85 - '86

MONTH	PATIENT DAYS	TOTAL COST	COST/PD (AVERAGE)
APRIL	9134	$20,085.00	$2.20
MAY	8944	$19,522.00	$2.18
JUNE	9397	$18,771.50	$2.00
JULY	10612	$14,640.00	$1.38
AUGUST	11185	$16,727.75	$1.50
SEPTEMBER	10340	$18,988.75	$1.84
OCTOBER	10837	$19,584.25	$1.81
NOVEMBER	9600	$15,719.25	$1.64
DECEMBER	8919	$17,242.00	$1.93
JANUARY	9657	$24,690.25	$2.56
FEBRUARY	8646	$24,081.75	$2.79
MARCH	9786	$13,201.75	$1.35
TOTAL	(AVERAGES)	$223,254.25	$1.82

ANNUAL REPORT OF INFECTIOUS WASTE - FISCAL 86-87

MONTH	PATIENT DAYS	TOTAL COST	COST/PD
APRIL	9100	$13,500.00	$1.48
MAY	9700	$13,500.00	$1.39
JUNE	10174	$13,500.00	$1.33
JULY	11540	$13,500.00	$1.17
AUG	11286	$13,500.00	$1.20
SEPT	10886	$13,500.00	$1.24
OCT	11389	$13,500.00	$1.19
NOV	10617	$13,500.00	$1.27
DEC	11173	$13,500.00	$1.21
JAN	11272	$13,500.00	$1.20
FEB	10953	$13,500.00	$1.23
MARCH	12032	$48,709.42	$4.05
TOTAL	130122	$197,209.42	$1.50

ANNUAL REPORT OF INFECTIOUS WASTE - FISCAL 87 - 88

MONTH	PATIENT DAYS	TOTAL COST	COST FOR SHARPS	COST/PD INF.WASTE	COST/PD TOTAL
APRIL	9,100	$58,174.40		$6.39	$6.40
MAY	9,182	$65,553.65		$7.14	$7.15
JUNE	12,369	$78,937.80		$6.38	$6.40
JULY	13,014	$56,000.00	$8,917.93	$4.30	$4.99
AUGUST	12,667	$56,000.00	$8,917.93	$4.42	$5.13
SEPTEMBER	11,855	$56,000.00	$8,917.93	$4.72	$5.48
OCTOBER	11,916	$56,000.00	$8,917.93	$4.70	$5.45
NOVEMBER	11,638	$56,000.00	$8,917.93	$4.81	$5.58
DECEMBER	11,796	$56,000.00	$8,917.93	$4.75	$5.51
JANUARY	12,240	$56,000.00	$8,917.93	$4.58	$5.30
FEBRUARY	11,941	$56,000.00	$8,917.93	$4.69	$5.44
MARCH	12,811	$56,000.00	$8,917.93	$4.37	$5.07
TOTAL	140,529	$706,665.85	$80,261.37	$5.10	$5.66

ANNUAL REPORT OF INFECTIOUS WASTE - FISCAL 88 - 89

MONTH	PATIENT DAYS	COST FOR SHARPS	COST INF.WASTE	COST TOTAL	COST/PD INF.WASTE	COST/PD TOTAL
JANUARY	12240	$8,917.83	$56,000.00	$64,917.83	$4.58	$5.30
FEBRUARY	11941	$8,917.83	$56,000.00	$64,917.83	$4.69	$5.44
MARCH	12811	$8,917.83	$56,000.00	$64,917.83	$4.37	$5.07
APRIL	11809	$8,917.83	$56,000.00	$64,917.83	$4.74	$5.50
MAY	9750	$8,917.83	$56,000.00	$64,917.83	$5.74	$6.66
JUNE	12333	$8,917.83	$56,000.00	$64,917.83	$4.54	$5.26
JULY	12962	$8,917.83	$56,000.00	$64,917.83	$4.32	$5.01
AUGUST	10556	$8,917.83	$56,000.00	$64,917.83	$5.31	$6.15
SEPTEMBER	11793	$8,917.83	$56,000.00	$64,917.83	$4.75	$5.50
OCTOBER	11536	$8,917.83	$56,000.00	$64,917.83	$4.85	$5.63
NOVEMBER	10866	$8,917.83	$56,000.00	$64,917.83	$5.15	$5.97
DECEMBER	11149	$8,917.83	$28,000.00	$36,917.83	$2.51	$3.31
JANUARY	12602	$8,917.83	$28,000.00	$36,917.83	$2.22	$2.93
FEBRUARY	12067	$8,917.83	$28,000.00	$36,917.83	$2.32	$3.06
MARCH	10073	$8,917.83	$28,000.00	$36,917.83	$2.78	$3.67
TOTAL		$133,767	$728,000	$861,767.45	$4.19	$4.96

FLOATABLES MANAGEMENT PLAN

June 1989

Marine Sciences Research Center
COAST Institute
Waste Management Institute

State University of New York at Stony Brook
Stony Brook, Long Island, New York

Special Report 86

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Approved for Distribution

JR Schubel

J.R. Schubel, Director

LIST OF COMMONLY USED ACRONYMS

BIN	Beach Information Network
COAST Institute	Coastal Ocean Action Strategies Institute
CSO	Combined Sewer Overflow
CTDEP	Connecticut Department of Environmental Protection
CTDOH	Connecticut Department of Health
DOH	Local Department of Health
ISC	Interstate Sanitation Commission
LIMRI	Living Marine Resources Institute
MSRC	Marine Sciences Research Center
MTS	Marine Transfer Station
NCDOH	Nassau County Department of Health
NOAA	National Oceanic and Atmospheric Administration
NJDCJ	New Jersey Department of Criminal Justice
NJDEP	New Jersey Department of Environmental Protection
NJDOH	New Jersey Department of Health
NJMSC	New Jersey Marine Sciences Consortium
NYCDEP	New York City Department of Environmental Protection
NYCDOH	New York City Department of Health
NYCDOS	New York City Department of Sanitation
NYSDED	New York State Department of Economic Development
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSOPRHP	New York State Office of Parks, Recreation and Historic Preservation
NYWPCA	New York Water Pollution Control Association
SCDOH	Suffolk County Department of Health
SUNY	State University of New York
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
W[illegible]	Waste Management Institute

EXECUTIVE SUMMARY

1. An effective floatable waste management plan may be defined as a series of specific, detailed actions, which, if taken, would reduce the problems associated with floatable wastes and would eventually minimize the floatable wastes themselves.

2. The initial elements of this plan were developed during a workshop held at the Marine Sciences Research Center, SUNY at Stony Brook.

3. This plan relied heavily upon the documents and plans already developed by the NYWPCA, NCDOH, SCDOH, NYSDEC, NYSDOH, NYSOPRHP, NYSDED, NJDEP, and the USEPA.

4. Beach operators are responsible for the initial response to floatable debris present on the beaches of NY, NJ and CT. The information and guidance they receive from the departments of health, environmental conservation/protection and law enforcement must be the best, most consistent and least ambiguous of all that is available.

5. Beach operators need a workable definition of the term "limited medical waste." In this plan we define "limited medical waste" as medical waste present in quantities small enough so that an individual could pick the medical waste up in 10-15 minutes.

6. A scientific response and information team should be established as a central clearinghouse for information and emergency consulting in the event of a beach crisis. The Waste Management Institute of the MSRC will be performing this function for the summer of 1989.

7. While federal and private beaches on Long Island are not under the jurisdiction of the State, they should follow the same procedures and protocol as the state and local beaches, including participating in the NYSOPRHP-NYSDEC Beach Information Network.

8. Much floatable material is stranded along shorelines of the region's back bay areas (e.g., NY/NJ Harbor, Long Island Sound, south shore of Long Island) and is refloated and flushed out into open waters during high tides and storms. Annual clean-ups of these areas should occur prior to the opening of the beach season. Local governments and state health and environmental agencies should formulate collection and disposal plans to accommodate the nature and volume of the floatable material collected from back bay areas.

9. A large introduction of floatables into the marine environment occurs through mishandling at marine transfer stations, during transport to landfills, and as part of the effluent released through combined sewer outflows. A multi-agency Floatables Action Plan addresses these issues for NY/NJ Harbor in the

1989 beach season; this plan recommends certain enhancements and, in addition, calls for the development and implementation of alternative disposal methods to landfilling in the near future.

10. Operating agencies at all levels of government must take specific actions to reduce the quantity of floatables reaching the marine environment and to reduce the volume of garbage and trash being discarded directly on beaches. The specific actions to be taken include: increased street cleaning, flushing of CSOs and storm sewers prior to the opening of the beach season, providing back-up power supplies to sewage treatment plants, increasing the frequency of emptying trash containers at all marine facilities, developing incentive programs to encourage public participation in the proper dispoxal of garbage and trash, and developing public education programs to encourage the proper disposal of home healthcare-related wastes.

11. Every possible effort should be made to reduce the municipal solid waste stream through source reduction and recycling. These efforts must include legislation at the federal level aimed at reducing packaging materials; state and local governments must exert greater leadership in the development and implementation of recycling programs, alternatives to landfill disposal (e.g., incineration) for non-medical wastes and safe, effective, economic, environmentally sound disposal options for medical wastes.

12. NY, NJ and CT should establish a regional waste management commission to promote collaboration and cooperation among the three states on regional waste management issues.

13. Educational programs on floatables issues should be developed. These include formal programs in the schools (e.g., the development of curriculum modules dealing with the full range of solid waste management problems and solutions), distribution to the general public of one-page flyers (e.g., NYSDEC's "If You See It, Report It"), public forums and events (e.g., NYSDEC/NYSOPRHP Beach Environmental Awareness Day, NYSDEC beach clean-up days), and radio and television public service announcements.

14. A nation-wide network of organizations in coastal states committed to resolving the problem of floatables in the nation's waters will be developed by the MSRC at SUNY at Stony Brook. The purposes of this network will be to share data and information and to promote programs and, where appropriate, legislation to alleviate the causes of the floatables problem.

15. There is a need for effective and accurate communication on floatables, events involving floatables, and the human health or safety risks they present, among beach operators, agencies and the media. To this end each agency and beach operator should take steps that will ensure consistency and clarityin contacts with the media about incidents involving floatables.

INTRODUCTION

Floatable wastes in the marine environment and the stranding of floatables on the beaches of the tri-state region have long been a problem. The amount of floatable wastes present in the marine environment has, however, been increasing in recent years. The quantities of medical waste and drug paraphernalia, although forming a small portion of the total floatable materials, have also been increasing. The unusual meteorological conditions of the past two years contributed to the largest amounts of floatable materials washing ashore on area beaches since the summer of 1976. The presence of medically related wastes and drug paraphernalia among the floatables, the fear of AIDS, and the attention that both received from the media converged to create public alarm. The public's response resulted in large financial losses to coastal communities of the tri-state area. It also eroded the public's confidence in the health of our coastal marine environment -- which remains fundamentally sound -- and in the government's ability to safeguard the health of that environment and the public health. The plan proposed within this document outlines steps which, if taken, should reduce the probability of the recurrence of floatable-related events similar to those of the summer of 1988. If implemented, the plan would serve as a model for other coastal regions of the nation and, indeed, the world, in addressing the increasingly serious problems related to floatable wastes.

BACKGROUND

According to a report prepared by the New York State Department of Environmental Conservation (NYSDEC Investigation: Source of the Beach Washups of 1988), the wastes that washed ashore on Long Island's coastal beaches last year consisted mostly of wood. Common household garbage, street litter carried by storm sewer runoff, sewage-related debris carried by combined sewer overflows, and litter left by beach goers comprised the next largest fraction of the floatable debris. Medical-type waste (e.g. syringes, blood vials, intravenous [I.V.] tubing and bottles, and surgical gloves) accounted for less than 1% by weight of the total debris collected. Many of these items were understandably misidentified by the public, beach operators and the media as medical waste. Upon subsequent careful examination by authorities in the NYSDEC, the true nature of the waste was ascertained. A summary of the floatable waste collected from the coastal beaches of Long Island is presented in Box 1.

Box 1. Kinds of Items Collected From New York's Ocean Beaches in the Summer of 1988

Wood
Dunnage, driftwood, deteriorated piers and boats, charred wood

Litter
Cans, bottles, styrofoam cups, sheet plastic, straws, softballs, cigarette filters, garbage

Sewage-related Debris
Condoms, diaper liners, sanitary napkin liners, tampon applicators, grease balls (animal and vegetable fats)

Tar Balls

Fishing Gear
Nets, floats, traps, lines

Medical-type Wastes
Needles, syringes, bandages, red bags, enema bottles

The NYSDEC reported that New York City beach operators found surgical gloves and I.V. supplies on their beaches. These are believed to have come from mishandling of medical wastes at hospitals, mishandling of wastes at marine transfer stations (MTS), or illegal dumping of hospital wastes,.

As can be seen from Box 1 and the preceding discussion, the floatable debris which washed up on the region's beaches last summer contained a variety of materials, some medically-related, most not. To increase understanding of the sources of the material, its composition, the processes which control its occurrence on our beaches, and the public health and safety aspects associated with floatable materials, the Waste Management Institute (WMI) of the Marine Sciences Research Center (MSRC) at SUNY, Stony Brook, convened a two-day conference in March, 1989. Many significant points pertaining to the nature of floatable wastes and the reasons for last summer's occurrences were made at this conference and they are summarized in Box 2.

As can be seen from this summary, many factors contribute to the floatables problem. These factors include the disposal habits of

Box 2. # Findings of the Stony Brook Waste Management Institute Conference on Floatable Wastes, March, 1989

1. Floatables are defined as buoyant waterborne waste materials and debris. Typical anthropogenic floatable materials include wood, beach litter, sewage-related debris, tar balls, garbage and trash, fishing gear, and, recently, medical wastes.

2. The wash-up of floatables onto area beaches has been a common, unsightly occurrence for years. The events of the summers of 1987 and 1988 were different in that medical wastes were a noticeable part of the floatable signal. However, they were probably <1% of the total waste load found on area beaches either by volume or weight.

3. Possible sources of floatables include:

   - Combined sewer outfalls (CSOs)
   - Storm sewers
   - Wastewater discharges from malfunctioning and improperly operated sewage treatment plants
   - Solid waste handling
   - Commercial ships, fishing vessels, and recreational boats
   - Beach users

4. Floatables, while primarily an aesthetic problem, have had a significant negative impact on the NJ/NY economy, at an overall cost estimated at $1.0-5.4 billion in 1988. Impact on the Long Island economy alone was at least $1.0 billion.

5. Beach use was down significantly in the summer of 1988.

6. The fear of AIDS infection from these medical wastes heightened public awareness of the floatables problem because of public health and public safety concerns.

7. In order for the transmission of infection to occur via floatables, all links in the communicable disease chain must be present:

   - Viable causative agent
   - Amount of agent sufficient to cause disease
   - Mode of escape
   - Mode of transmission capable of causing disease
   - Mode of entry
   - Susceptible host

# These are the findings of the sponsors, session chairs, and conference organizers.

8. With respect to the AIDS virus in marine systems, the chain has almost certainly been broken at several points.

9. There is no evidence to suggest that public health is threatened by the wash-up of medical wastes – the risk of acquiring AIDS through contact with floatable wastes is near zero.

10. As a result of the public perception of the floatable wash-up events, there was a decline in local seafood sales to markets and restaurants, but many fishermen were able to find alternative markets which kept fish prices up.

11. Party boat business appeared to be down. Some offshore species were not as abundant as usual owing to anomalous water temperatures, affecting some charter boat businesses. This was **not** related to the presence of floatables.

12. Fish and shellfish cannot transmit the HIV virus, as it will not grow or survive in shellfish or finfish. Shellfish contamination by the Hepatitis A virus may occur, though its contamination is not likely to occur through floatables.

13. Seafood products are not contaminated by floatable wastes. With regard to consuming seafood, the standard advisories issued by the states of New York and New Jersey should be followed.

14. In order to revive these portions of the economy, it is important to reduce the floatable load. The most effective way is to attack the sources, beginning with the individual. Other long- and short-term remedial actions are being implemented by the federal, state and local governments.

15. The south shore of Long Island is vulnerable to wash-up of floatable wastes. Summertime oceanographic and meteorological conditions favor transport of such materials towards the South Shore.

16. The Medical Waste Tracking Act (MWTA) will probably not be effective in significantly reducing medical wastes on beaches because these wastes are primarily a result of leaks in the existing disposal systems.

17. To make the MWTA more effective, it may need tc start with medical supply manufacturers -- in the recent case in a New York City hospital where 250,000 needles were reported missing, these items were not covered by the tracking systems.

18. Small generators should be excluded from the MWTA. Provisions should be made for those not covered by the MWTA to easily and cost-effectively dispose of their medical wastes

through intra-regional incineration.

19. An intra-regional incinerator would:

- Eliminate the need for a uniform, clarified and simpified definition of medical waste which is now lacking.
- Eliminate the problem of interstate transport regulations.
- Eliminate problems of variable regulations for in hospital/home medical waste handling.
- Cut costs to hospitals, nursing homes, doctors' offices, etc., by eliminating out of state medical waste haulage costs.
- Render all infectious medical waste from health care facilities non-infectious.

20. The medical waste industry should develop public education materials to be distributed in physicians' offices, pharmacies, and other health care facilities. These materials should describe the proper disposal mechanisms for medical wastes, the ultimate fate of the medical waste, and the health risks related to medical wastes. The material should be region specific in order to address regional waste disposal technologies.

21. Better coordination of federal, state and local programs and plans dealing with wash-ups of floatable wastes is needed, including criteria for cleaning beaches, closing beaches and responding to requests of public health and safety issues.

individuals, the handling of solid wastes by municipalities, the handling of medical wastes by hospitals and licensed haulers, storm sewer discharges and combined sewer overflows, and the lack of coordination among federal, state, and local programs designed to alleviate the problem. The solution to the floatables problem must address all of these factors and must include the efforts of local, regional, and federal governments.

On April 12-14, 1989, a two-day workshop was convened by the COAST Institute of the Marine Science Research Center of the University at Stony Brook as the first step in formulating an action plan which would effectively address the floatables problem on all levels. The final plan, detailed in the following sections, addresses the various components of the floatables problem. The nature of the problem and the elements of the plan are shown schematically in Figures 1 and 2.

FIGURE 1. LEVELS OF THE FLOATABLES PROBLEM ADDRESSED IN THE PLAN

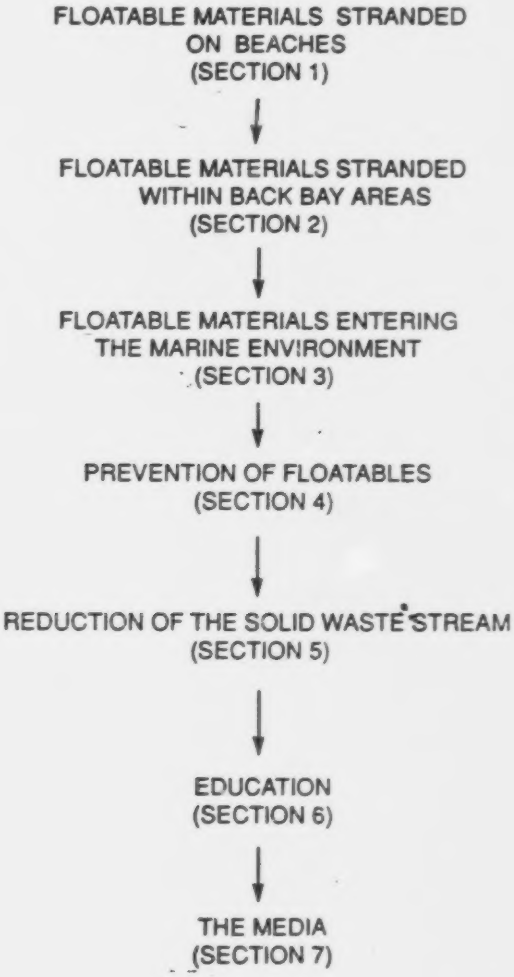
FLOATABLE MATERIALS STRANDED ON BEACHES (SECTION 1)
FLOATABLE MATERIALS STRANDED WITHIN BACK BAY AREAS (SECTION 2)
FLOATABLE MATERIALS ENTERING THE MARINE ENVIRONMENT (SECTION 3)
PREVENTION OF FLOATABLES (SECTION 4)
REDUCTION OF THE SOLID WASTE STREAM (SECTION 5)
EDUCATION (SECTION 6)
THE MEDIA (SECTION 7)

FIGURE 2. RESPONSIBILITIES AS OUTLINED IN THE PLAN

FLOATABLE MATERIALS STRANDED ON BEACHES
(SECTION 1)
* Beach operators
* Departments of Health
* States' Departments of Environmental Conservation/Protection
* States' Offices of Parks and Recreation

FLOATABLE MATERIALS STRANDED WITHIN BACK BAY AREAS
(SECTION 2)
* States' Departments of Environmental Conservation/Protection
* Departments of Health
* USEPA
* Local Governments

FLOATABLE MATERIALS ENTERING THE MARINE ENVIRONMENT
(SECTION 3)
* Local and municipal Departments of Sanitation
* State Departments of Environmental Conservation/Protection
* USEPA and their interagency task force

PREVENTION OF FLOATABLES
(SECTION 4)
* Local and municipal Departments of Sanitation
* Local governments
* State Departments of
*EnvironmentalConservation and Protection
* Offices of Parks and Recreation (all levels)

REDUCTION OF THE SOLID WASTE STREAM
(SECTION 5)
* All levels of government
* Industry
* Research and Educational Institutions
* The public

INTRODUCTION TO THE PLAN

An effective floatable waste management plan may be defined as a series of specific, detailed actions which, if taken, would reduce the problems associated with floatable wastes and would eventually minimize the floatable wastes themselves. Such a plan must include preventive measures, action-oriented responses, education and public awareness. Cooperation of federal, state, city, county, and town governments, the media, the educational system, and the public must be obtained if a floatable waste management plan is to succeed. Considering the growing population of our coastal areas, such a plan must succeed or the nation's coastal regions will face irreversible economic and aesthetic losses. *It has been predicted that within 10 years more than 75% of the total population of the United States will live within 50 miles of the coastline of the ocean and the Great Lakes. We already have living within 50 miles of the coastline of the tri-state area -- New York, New Jersey and Connecticut -- more than 10% of the total population of the United States.*

The plan outlined here, if undertaken, would significantly reduce the problems associated with floatable wastes in the tri-state region. While the elements contained in the plan are applicable to New York, New Jersey and Connecticut, it should be understood that the implementation of the actions outlined in Sections 1, 2 and 3 will be carried out in accordance with each state's own agencies and standard operating procedures. Those presented in this version of the plan are in accordance with New York State's agencies and operating procedures.

DEVELOPMENT OF THE PLAN

As mentioned previously, the initial elements of the plan were developed during a workshop held at the Marine Sciences Research Center at SUNY Stony Brook. The workshop consisted of a plenary session, followed by individual working groups assigned specific topics (i.e. education, media, helping the beach operator), followed by a second plenary session. The final plan, contained herein, represents a collaborative effort by representatives from the towns of Long Island, Nassau and Suffolk Counties, New York City, the states of New York, New Jersey and Connecticut, and various federal agencies. This document integrates the individual plans of these municipalities and agencies and the working groups' suggestions into one comprehensive unit.

In preparing this plan we have relied heavily upon the documents and plans already developed by the following agencies: the Long Island Chapter of the New York Water Pollution Control Association, Inc. (NYWPCA), the Nassau County Department of Health (NCDOH), the Suffolk County Department of Health (SCDOH), the New York State Department of Environmental Conservation (NYSDEC), the New York State Department of Health (NYSDOH), the New York State Office of Parks, Recreation and Historic Preservation (OPRHP), the New Jersey Department of Health (NJDOH), the New Jersey Department of Environmental Protection (NJDEP), and the United States Environmental Protection Agency (USEPA). Without the cooperation of these agencies, this plan would not exist. In all cases, full credit is given to those agencies whose plans were incorporated into the present plan. The following symbols are used to indicate which actions are contained, in whole, in part or not at all, in any of the agency plans.

EXPLANATION OF SYMBOLS

● This plan and some preexisting plans
◑ A modification of some preexisting plans
○ Unique to this plan

The individual plans are presented in Appendix 1.

SECTION 1. RESPONSE TO FLOATABLE MATERIALS ON BEACHES

This section of the Plan has been developed to assist the beach operator in decision-making, as well as to provide maximum protection of the public's health and safety.

There are three components that comprise a response to the presence of floatable wastes on a beach -- clean-up, disposal of materials, and consideration of the necessity to close a beach. In most circumstances beach closure should not be necessary. The person responsible for the initial response to floatable debris present on the beaches of New York, New Jersey, and Connecticut is the beach operator. They are the line managers and are dependent on the various departments of health, environment conservation/protection, and law enforcement for instructions on the proper handling and disposal of the wastes.

Clean-up of floatable wastes from beaches has been a standard part of the beach cleaning process in the tri-state region for decades. Although careful handling is required in the event of medical wastes, clean-up of floatable waste is a routine part of normal beach maintenance.

Disposal of stranded materials has not proven to be a problem until recently. In 1987 and 1988, the reported presence of anomalous amounts of medical waste and drug paraphernalia in the floatables which washed ashore on the region's beaches, combined with the public outcry over them, posed a new problem for disposal of these materials.

The decision to close a beach in New York State, although under the domain of the state and county health departments, falls initially to the beach operator. Beach operators are the initial, and therefore, key decision makers regarding the evalutation of beaches for potential closings out of concern for the public's health and safety. Their decisions must be, to a significant extent, judgment calls. Therefore, beach operators must be as informed as possible to properly carry out their responsibilities. The information and guidance that they receive must be the best, most consistent, and least ambiguous of all that is available so that they can make the best decisions possible. Although large floatable wood has been known to cause injury and even death, it is not the topic of this plan.

The following steps should be taken when floatables other than wood are found on a beach.

ACTIONS REQUIRED

A. When Medical Waste and/or Drug Paraphernalia are Found

	ACTION	RESPONSIBILITY
●	1. Determine how abundant and/or widespread the medical wastes and drug paraphernalia are.	Beach Operator
◐	2. a. If wastes are limited in abundance they should be picked up and isolated from the rest of the floatable wastes collected. For open coastal beaches, limited may be defined as medical waste present, during beach operating hours, in quantities small enough so that clean-up can be completed in 10 - 15 minutes. DOH guidelines should be followed when handling medical waste.	Beach Operator
◐	2.b. If small quantities of material are found in the water, the water should be closed to swimming. The beach operator and his staff should then assess the situation and take appropriate steps.	Beach Operator
●	2.c. Sections of a beach may be temporarily cleared of people during beach operating hours in order to clean-up newly stranded materials without closing the entire beach.	Beach Operator
●	3. If any of the medical waste has identifying markings or contains blood, the NYSDEC or its equivalent in NJ and CT should be called and the material held for pick-up by one of their officers.	Beach Operator
●	4. Medical wastes without identifying	Beach Operator

	marks should be stored in the proper containers and brought to designated local health centers for proper disposal. In CT, they should be brought to the local Director of Health for disposal, while in NJ they should be turned over to the police department which will then turn them over to NJDCJ for proper disposal.	and Staff
●	5. If an extensive quantity of medical waste is found either on the beach or in the water or both, the beach should be closed and, in New York, the local health department called. In CT, CTDOH should be notified while in NJ NJDEP should be notified.	Beach Operator and NYSDOH Personnel
◑	6. Upon closing of a beach, the materials should first be documented (photographed) prior to collection. They should then be retained for further examination and scientific analysis. The measures taken to document the closing of a beach because of floatables will be used to monitor the effectiveness of the clean-up actions and to identify potential sources of problems.	NYSDOH and NYSDEC Personnel
○	7. Whenever wastes are found, regardless of quantity or character, the items are to be logged by the beach operator as they are received, indicating the type, quantity, condition (fresh, weathered, etc.), and date. These data are to be supplied to county DOHs and to NYSDEC on at least a monthly basis. These data are essential to document changing conditions of beaches over time and to assess floatable management strategies. In addition, if large quantities of medical-type waste are found, the BIN should be called. In New Jersey, beach operators must report every syringe found to the NJDCJ.	Beach Operator
◑	8. In the event that an individual comes into accidental physical contact with medical wastes, the beach operator should advise	Beach Operator and Staff

the person to wash the exposed area of the body with soap and water. In the event of a laceration or puncture wound, the beach operator should advise the injured individual to wash the area with soap and water and seek medical attention. All medical-type waste items involved in these incidents should be collected and turned over to the local health department. The injured individual's physician may then contact the local DOH for information. A complete report containing all relevant information should be filed with the local DOH. The BIN should also be notified. In NJ, the local DOH should contact the injured individual for follow-up. In CT, the beach operator should simply administer appropriate first aid and not advise the injured party in any way.

B. When Sewage-Related Artifacts are Reported

	ACTION	RESPONSIBILITY
●	1. Sewage-related artifacts should be cleaned up following routine cleaning procedures.	Beach Operator and Staff
●	2. If an unusual abundance of sewage-related artifacts is found, the local DOH should be notified. It is the responsibility of the local DOH to determine what actions are required. A determination should be made whether there are any known sewage treatment plant failures that are responsible for the problem.	Beach Operator and DOH Personnel
◐	3. All unusual occurrences of sewage-related artifacts should be reported to the BIN, rather than NYSDEC, as should all information on sewage treatment plant breakdowns.	Beach Operator and Sewage Treatment Plant Operators
◐	4. In the event raw sewage is believed to have been sighted, the local DOH should should be called. Additionally, if the sighting occurs in NY, the Waste Management Institute at SUNY Stony	Beach Operator, DOH Personnel and WMI Team

Brook is willing to assist.

C. Opening a Closed Beach

ACTION	RESPONSIBILITY
● Once closed, the beach can/should be reopened when clean-up of all floatables has been completed. No medical floatables should be present in the water, the beach must be clean, and water quality must have returned to acceptable levels (if water quality samples were mandated on closing of the beach).	DOH Personnel and Beach Operator

Actions Already Initiated

1. Proper handling and disposal criteria for medical wastes have been developed by NYSDEC, NYSDOH and NYSOPRHP in conjunction with the Westchester, Nassau, and Suffolk County Health Departments. NJDOH and the CTDOH have also developed medical waste handling and disposal criteria.

2. NY, NJ, and CT Departments of Health have all established criteria which beach operators are to follow when determining whether or not to close a beach. The criteria which we have established in this plan is more explicit than those developed by the NYSDOH. We feel it is in the best interests of the beach operators to be as explicit as possible when establishing beach closure criteria.

3. NYSOPRHP has established a Beach Information Network (BIN). Beach Operators will be able to telephone the BIN in order to report occurrences of medically-related floatable wastes, unusual floatable events, and other floatable-related occurrences (e.g. injury). Beach operators may also phone the BIN to obtain information on conditions occurring at other beaches and offshore.

4. NYSOPRHP, NYSDEC, and NYSDOH jointly prepared a guidance document to be followed by beach operators when dealing with medically-related floatable wastes. This document includes descriptions of actual medical waste items, descriptions of objects commonly mistaken as medically-related wastes, procedures for handling and disposal of medical wastes, procedures to be followed if exposure occurs and the phone numbers of agencies to be contacted. Another similar document has been prepared by these agencies for distribution to the general public.

5. NYSOPRHP, in conjunction with NYSDEC and NYSDOH, sponsored three beach operators' meetings. All operators of regional and private beaches were invited to attend. At this workshop they explored how to best implement the guidance contained in the documents prepared by NYSDOH, NYSDEC and NYSOPRHP.

6. Nassau County Department of Health (NCDOH) and Suffolk County Department of Health (SCDOCH) are providing puncture-proof containers to beach operators to be used for storing sharps, vials and syringes with or without needles. Both NCDOH and SCDOH have arranged for collection of these containers and subsequent proper disposal.

Recommendations

1. NYSDEC should prepare an annual summary report on the condition of the region's beaches from an analysis of the data collected by the BIN. This report should be finalized and available for distribution to beach operators, agency personnel, the scientific community, and the public *by October 31 each year.*

2. Meteorological conditions should be monitored to alert decision makers to potential problems. As there is not enough time for any agency to organize this initiative this year, the Waste Management Institute will take on this task for the 1989 beach season.

3. Although the USEPA's Floatables Action Plan includes the utilization of NOAA's computer models to forecast the general direction of movement of any offshore slick and to identify areas at risk, these models cannot predict precise landfalls. It is recommended that these predictions, as well as the predictions regarding possible stranding sites, be reported with **extreme caution** to the *appropriate* beach operator. *An erroneous prediction could have negative economic consequences for the affected region.*

4. A scientific response and information team should be established as a central clearinghouse for information and emergency consulting in the event of a beach crisis (e.g. identification of questionable materials, such as whether substances are sewage or simply a plankton bloom). As there is not enough time for any agency to organize this for the summer of 1989, the WMI will take on this role for the coming summer. It will serve in this capacity only for this summer.

5. Federal and private beaches (e.g., beach associations and clubs) on Long Island should follow the same procedures and protocol as the state and local beaches, including participating in the BIN.

6. If unusual quantities of floatable wastes are found in other than designated beach areas, the local DOH should be contacted.

7. The most recent guidance documents prepared by NYSOPRHP, NYSDEC and NYSDOH should be mailed to beach operators along with their yearly permit applications. This should occur early in the spring well before the opening of the beach season.

8. NY, NJ, and CT should each establish a network for cooperation (e.g. exchange of ideas, problem solving, education) among beach operators of federal, state, city, town, and private beaches within their states.

9. In NYS, the OPRHP should sponsor an annual year-end beach operators meeting wherein beach operators mightexchange ideas and information and develop strategies for improving beach management the following year.

10. It is recommended that Departments of Health in Westchester County, New York City and of other municipalities establish collection and disposal procedures for medical-type wastes similar to those established by NCDOH and SCDOH.

11. Greater attention must be directed at ensuring that sewage treatment plants operate at design standards. This will require greater support for personnel and for back-up systems, including pumps and power supplies. This investment will have a greater benefit than a comparable investment to upgrade treatment.

SECTION 2. CLEAN-UP OF STRANDED FLOATABLE DEBRIS IN BACK BAY AREAS

Many of the floatable wastes entering coastal waters in the Greater New York Metropolitan Area are not immediately transported to the open waters of the New York Bight. Much of the material initially strands along the shorelines of the region's back bay areas. During high tides and storm events, this material is refloated and flushed out into open waters. This problem is particularly acute in the back bay areas of New York Harbor, although it also occurs in the sheltered harbors and bays of Long Island Sound and the south shore of Long Island. Material in many of these areas has been accumulating for years and ranges from huge tree trunks to tires to paper cups to sewage-related artifacts. In a recent clean-up effort along the coastline of New Jersey, the NJDEP reported a total of 4.3 million pounds of floatable wastes were collected. Only 4 pounds of this collected material (.0001%) was identified as medical-type waste, while 98% of it consisted of large pieces of wood. This section of the Plan focuses on reducing or eliminating this large proximate source of floatables.

ACTIONS REQUIRED

	ACTION	RESPONSIBILITY
◑	1. Prior to the opening of the beach season, cleanups of back bay areas should be conducted. Areas likely to contribute significant volumes of floatables to open waters should be cleaned first.	State and Local Governments
◑	2. A training course on the identification and proper handling of medical wastes should be organized for individuals involved in the clean-up of back bay areas.	USEPA, NYSDOH and Other Agencies
◑	3. Given the huge volume and varied character of stranded floatables in back bays, explicit disposal plans including alternatives to landfilling should be developed for these materials.	NYSDOH, NYSDEC, and Local Governments

Actions Already Initiated

1. New York City and New Jersey have initiated a pilot program utilizing prisoner labor to perform routine clean-ups of beaches and back bay areas.

2. Four hundred volunteers recently participated in a Huntington effort that removed tons of waste from 70 miles of shoreline. The program is expected to be repeated.

3. The USEPA has initiated a training course on the proper identification and handling of medical wastes by persons involved on the NY/NJ Harbor clean-up project.

Recommendations

1. Local governments should expand or initiate pilot programs like those of New York City and New Jersey to clean up back bay areas prior to the opening of the beach season. Where possible, maximum use should be made of volunteers, prisoner labor, etc.

2. State health agencies should develop and implement training programs designed to instruct those involved in back bay clean-ups in the identification and proper handling of medical wastes and other floatables. It is also recommended that the USEPA's training course be expanded to include those involved in back bay clean-ups.

3. State health agencies should develop a simple pictorial guide describing the proper identification and handling of medical wastes for use in these training programs.

4. Local governments and state health and environmental agencies should formulate collection and disposal plans to accommodate the nature and volume of the floatable material collected.

SECTION 3. RESPONSE TO FLOATABLES NEAR ENTRY POINTS

The following section of the Plan has been developed to remove floatables near their point of entry into the waters of the New York/New Jersey region. Much of the floatable waste stream is introduced into the marine environment through mishandling at transfer stations, during transport to landfills, and at landfills, through storm sewer discharge, and as part of the effluent released through combined sewer overflows. It is important that floatable materials from these sources be controlled, contained, and removed from the marine environment as close to their entry points as possible in order to alleviate the problem of floatable wash-ups on our region's beaches.

ACTIONS TO BE TAKEN

	ACTION	RESPONSIBILITY
◑	1. Expansion and refinement of the system of containment booms and nets deployed around marine transfer stations, in the waters near the Fresh Kills landfill, and around garbage barges during loading and unloading and nets placed over barges during transport should be undertaken.	NYCDOS
◑	2. Captured floatable materials should be routinely removed from booms and nets and properly disposed of on a more frequent basis.	NYCDOS
○	3. The construction of covered facilities for loading and unloading of garbage barges should be undertaken.	NYC Government, NYCDOS
●	4. Routine daily boat patrols of New York Harbor should be made to spot and clean up slicks of floatable debris that may be present in the Harbor. Such patrols should be in daily contact with helicopter surveillance personnel.	USACE, USCG, USEPA, NJDEP, NYSDEC, NYCDOS
●	5. Helicopter surveillance of all New York-New	USCG, USEPA,

Jersey harbor and nearshore waters of the New York bight should be undertaken. Any slicks spotted will be reported to the BIN.	NJDEP NYSOPRHP

Actions Already Initiated

1. The USACE, USCG, USEPA, NJDEP, NYSDEC, and the NYCDOS are all involved in a Floatables Action Plan that began on May 15th, 1989 and will run through September 15th, 1989 (see Appendix 1). This plan, part of the New York Bight Restoration Plan, includes regularly scheduled clean-ups of floatable materials from the waters at Verrazano Narrows and Arthur Kill during spring tides (immediately before, during, and after) and after major storm events. The USACE is conducting regular clean-ups utilizing specially designed nets (1 3/4") provided by the states of New York and New Jersey. Non-routine clean-ups of slicks within the NY/NJ Harbor complex are also being carried out by the USACE and fishing vessels under contract to NJDEP. All captured materials are loaded onto NYCDOS barges and brought, eventually, to the Fresh Kills landfill. Helicopter patrols are surveying the waters outside of the Inner Harbor and noting the presence of any floatable slicks. A computer model developed by NOAA is being utilized to predict the movement of such slicks and their stranding sites, if any.

2. The NYCDOS has made improvements in its containment booms, net systems and barge transfer operations.

3. The NJ state police purchased 26 new boats and hired 75 new troopers to patrol the coastline.

Recommendations

1. It is recommended that the frequency of routine cleaning and maintenance of the booms and nets at Fresh Kills landfill and other sites around New Jersey/New York Harbor be increased.

2. Although the NYCDOS has taken steps to improve operations at the Fresh Kills landfill and during garbage barge transfers (e.g., purchasing new vehicles, emplacement of hydraulic booms, and covering barges with nets), these measures are not adequate to address the problem. It is recommended that covered loading and unloading facilities be constructed and utilized during garbage barge operations.

3. It is recommended that alternative disposal methods to landfilling for floatables (e.g. incineration) be implemented in the near future. Carrying the collected floatable materials back to the marine transfer stations ensures that a portion of this debris will return, once again, to the marine environment.

SECTION 4. PREVENTING FLOATABLES FROM REACHING THE MARINE ENVIRONMENT

This section specifies activities that can be undertaken primarily by operating agencies at all levels of government to reduce the quantity of floatables reaching the marine environment and to reduce the volume of garbage and trash being discarded directly on beaches. In some cases legislation will be required to increase funding levels and/or to tighten existing regulations.

ACTIONS REQUIRED

	ACTION	RESPONSIBILITY
◑	1. Streets should be cleaned more frequently, particularly just prior to and during the summer beach season.	All municipalities, especially those that have CSOs and/or storm sewers whose effluent reaches coastal waters and their tributaries
◑	2. CSOs and storm sewers should be flushed and wastes collected at discharge points prior to the opening of the beach season. This has been shown to be effective in Cape May County, NJ.	Small municipalities especially those coastal communities along the eastern seaboard that have CSOs and/or storm sewers
◑	3. The operating efficiencies of sewage treatment plants and the regulators in the CSOs should be improved in order to reduce the volume of floatables entering marine waters. This may mean increasing operation and maintenance budgets.	Legislative oversight bodies, Federal and State permitting authorities, and municipalities
◑	4. Back-up generators should be provided for all sewage treatment plants in order to ensure primary treatment during power outages. More of the required energy supply may be captured from methane generation.	Federal, State, County, City, and Town Parks and Recreation Departments

●	5. Surveillance should be strengthened at marine transfer stations and at Fresh Kills landfill to ensure proper loading of garbage barges including covering of full barges with nets.	N YSDEC, NYCDOS
◑	6. Direct untreated CSO discharges should be eliminated.	Legislative oversight bodies, federal and state permitting authorities, the ISC and other regulating agencies
◑	7. The number of trash containers available at all marine facilities (e.g. public marinas and beaches) should be increased, as well as the frequency at which these containers are emptied. Monitoring of such actions by supervisory personnel should be increased.	Federal, state, county, city, and town parks and recreation departments
○	8. The terms of permits for private beach facilities providing service to the public should be reviewed and upgraded if necessary, and surveillance should be increased. Private beaches should adhere to the same criteria and standards as state and federal beaches.	Federal, state, county, city, and town permitting authorities
◑	9. Incentive programs to encourage public participation in keeping beaches and parking areas clean should be implemented.	Federal, state, county, city, and town parks and recreation departments
◑	10. The quantity of floatable materials inappropriately disposed in toilets should be reduced. Educational efforts should be expanded to prevent introduction of tampon applicators and syringes into the sewage system, including the revision of manufacturers' instructions to include proper disposal.	USEPA, NYSDEC and WMI working together with plastics manufacturers and medical supply companies

Actions Already Initiated

1. Some New Jersey coastal communities have implemented the flushing of storm sewers.

2. NYCDOS has increased surveillance at the Fresh Kills landfill.

3. Some New Jersey coastal communities are working with local businesses to develop incentive programs.

4. USEPA is currently negotiating with a public relations agency to create a national advertising campaign to discourage improper disposal of medical wastes.

5. The Marine Plastic Pollution Research Control Act of 1987, as well as Annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL), which went into effect in 1988, prohibits dumping of plastics anywhere in the world oceans. Commercial ships are not allowed to discard garbage in the ocean within twelve nautical miles of the shore. The USCG is responsible for enforcement of these acts.

Recommendations

1. Industry/government partnerships might be effective whereby a free soft drink is provided for properly disposing of waste. At public beaches a free day's parking (NY) or a free day's beach pass (NJ) might be provided.

2. It is recommended that funding to the USCG be increased so they can effectively enforce MARPOL.

3. The federal government, health and hospital agencies and the medical products industry should jointly explore the feasibility and usefulness of placing serial numbers on syringes when they are produced.

Pollock, Cynthia. Mining Urban Wastes: The Potential for Recycling. Worldwatch Paper 76. 1987.

SECTION 5. REDUCING THE WASTE STREAM

Society must be assiduous in its efforts to reduce the total waste stream through source reduction and recycling and to simplify the chemical composition of the waste stream through recycling, through fundamental changes in the character of the waste stream and through control of contamination at its source. *Significant reduction in the municipal solid waste stream will be achieved only through major initiatives in source reduction and recycling. These initiatives should be accompanied by other initiatives to significantly reduce the amounts of contaminants of concern in that fraction of the waste stream requiring disposal. All of these strategies must be mandated and compliance must be rooted in significant economic incentives and disincentives.*

The arguments for reducing and for simplifying the municipal solid waste stream are manifold and compelling. The benefits are environmental and economic: conservation of energy and of valuable and finite natural resources; protection of human health, the environment and living resources; and significant economic savings. In the context of this report it should be pointed out that a reduction in the municipal solid waste stream would reduce the inventory of floatables in the environment and therefore the probability of strandings of significant amounts of floatables on our beaches. The effort that will be required should not be underestimated. It will require a significant change in lifestyle.

Failure to bring the municipal solid waste stream under control in this region, and in other major metropolitan coastal regions, will cause increasingly undesirable environmental and economic perturbations. If municipal solid wastes and medical wastes are to be managed effectively on Long Island and in the metropolitan New York City area, solutions must be developed that can be exercised within the region and at acceptable costs. If solutions are not developed that meet these two criteria, we should expect to see an increase in illegal dumping, particularly of medical wastes. Getting tough is necessary, but not sufficient. We also need to get smart. We need to provide individuals and organizations disposal options that are convenient and affordable.

A BRIEF SYNOPSIS OF SOME ASPECTS OF THE REGIONAL MUNICIPAL SOLID WASTE PROBLEM

Since 1960, the total municipal solid waste stream of Long Island and the metropolitan New York City area has increased by 80 %. It is predicted to increase by an additional 20 % by the year 2000. The character of the waste stream has also changed. The percentages of plastics and paper have increased as well as the amounts of toxic and hazardous wastes.

The percentage of plastics in the nation's municipal solid waste stream more than doubled between 1970 and 1984 (from 2.7 to 7.2 %) and is expected to more than triple -- relative to 1970 -- by the year 2000. At that time, it is predicted that plastics will account for nearly 10 % by weight of the total waste stream. In absolute weight this corresponds to an increase from 3 million tons nation-wide in 1970 to 9.6 million tons in 1984 to a projected 15 million tons of plastics by the year 2000. Each individual in the U.S. generated approximately 200 pounds of plastic waste in 1988, approximately 30% of which was packaging.

The big increase in plastic wastes is primarily from throw-away, single-use items. For example, in 1987, there were about 16 billion disposable diapers and 1.6 billion disposable pens used in the United States (Worldwatch Institute, 1987). Styrofoam cups and clamshell containers also are important components.

Another significant change in the waste stream is the increase in paper, which rose from 33% by weight in 1970 to 37% in 1980 and is projected to exceed 40% of the municipal solid waste stream by the year 2000.

Long Island. Long Island has the dubious distinction of leading the world in the per capita production of garbage and trash -- nearly 7 pounds per person per day. The Long Island Landfill Law of 1990 mandates that on 18 December 1990 all landfilling of garbage and trash within the deep recharge area shall cease, that landfilling of garbage and trash outside the deep recharge area shall be restricted to existing landfills, and shall cease when these landfills reach capacity. For all intents and purposes, Long island -- Nassau and Suffolk Counties -- will be without landfills in about one and one-half years.

The two counties that make up Long Island have a population of about 2.6 milliion and produce about 2.6 million tons of garbage and trash each year. Even if the State's goal of reducing the solid waste stream by 50% by 1997 through source reduction and recycling is met, the two counties wil have to dispose of more than 1.0 million tons of garbage and trash every year. Most will probably be incinerated.

New York City. The situation for New York city is little better. The City has only one landfill remaining -- Fresh Kills Landfill on Staten Island. With an area of about 3000 acres it is the largest landfill in the world. While the largest, it is nearing capacity. Its remaining lifetime is less than 15 years. When it reaches capacity, it will be the highest elevation along the east coast of the United States from Florida to Mt. Desert, Maine -- over 500 feet in elevation.

Medical Waste. The situation for medical waste is comparable. While the amount of medical waste is small relative to the amount of garbage and trash, its disposition is even more problematic. Long Island and the metropolitan New York area generates almost 50,000 tons of infectious medical waste every year. Disposal costs range from about $0.50 to $1.00 per pound.

ACTIONS REQUIRED

◑	1. Every possible effort should be made to reduce the municipal solid waste stream through source reduction and recycling. These two activities should be integral components of every municipal solid waste management plan. Goals should be ambitious but realistic. The New York State goal of 50% by 1997 meets these criteria.	Towns, Counties and States
◑	2. Approximately 50% of the U.S. municipal solid waste stream is packaging of one kind or another. Packaging reform will require legislation at the national level. Industry should demonstrate leadership in packaging reform.	Coastal states should initiate the legislative effort, led by NY, NJ and CT Industry
◑	3. Even with major and successful source reduction and recycling initiatives, the region will have significant amounts of solid waste that will require disposal. Disposal options should be developed within the region in a timely manner to avoid environmental and economic perturbations. On Long Island the landfilling option has been eliminated.	While primary responsibility rests with the towns, the counties and state should exert greater leadership
◑	4. Disposal options for medical wastes should be developed in a timely way within the region; they must be options that are acceptable from the perspectives of human health, the environment and the economy. If options are not available at affordable costs, we should expect to see an increase in illegal disposal activities and an increased incidence of medical wastes on the region's beaches.	While primary responsibility rests with the towns, the counties and state should exert greater leadership

Actions Already Initiated

1. New York State has set a goal of reducing the waste stream by 50% through source reduction (10%) and recycling (40%) by the year 1997.

2. All of Long Island's towns have in place or in advanced planning stages recycling programs to meet the State mandate.

3. New York City has set a recycling goal of 25% by 1991.

4. New Jersey has set a recycling goal of 25% by 1991.

5. New York and Connecticut have bottle bills; New Jersey does not.

Recommendations

1. The counties and particularly the state must exert greater leadership if recycling programs are to be sustained. There are key roles they must play, for example, in the identification and stabilization of markets for recyclables and the purchase of materials made from recycled goods.

2. The design and construction of incinerators should be pursued on a regional basis to ensure that the total capacity is adequate to meet the region's needs while not reducing incentives for recycling.

3. New York, New Jersey and Connecticut should establish a regional waste management commission to promote collaboration and cooperation among the threeg states on regional waste management issues.

4. Existing beverage container deposits should be increased to at least $0.25 per container to promote recycling. Beverage container deposit programs should be extended to cover all beverages. Deposit programs should be implemented for batteries of all kinds, tires and other appropriate recyclable materials. New Jersey should enact a bottle bill.

SECTION 6. EDUCATION

There is a need for both short- and long-term educational programs dealing with floatables issues. These programs should involve government and educational institutions at all levels, environmental and other public interest groups, business, and industry. Different and distinctive programs should be developed and targeted at all levels from K-12, at the college level and at adult learners. The programs should range from formal programs in the schools to radio and television spots using well-known personalities as presenters. A major recurrent theme should be the importance of individuals in contributing to and in solving the floatables problem.

ACTIONS REQUIRED

	ACTION	RESPONSIBILITY
	A. Public Outreach	
●	1. Trained groups of specialists should be developed to talk to school groups and to adults.	CT, NJ,* and NY Sea Grant and Local Universities
◑	2. Public forums on beach processes and pollution should be convened throughout the summer at different locations.	CT, NJ,* and NY Sea Grant; NJDEP, NYSDEC, and Local Universities
○	3. Signs should be posted at beaches describing beach clean-up procedures and what people can do to help reduce the problem (e.g. reducing the volume of wastes through source reduction and recycling, proper disposal of wastes at the beach, etc.).	County, City and Town Departments of Parks and Recreation; CT, NJ and NY Sea Grant
◑	4. One-page flyers should be produced and distributed to hotels, motels, beaches, doctors' offices, etc. These should clarify the public health and safety risks	NJ,* NY and CT Sea Grant, NJDEP, NYSDEC, NYSDOH, and Local Universities

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*The New Jersey Marine Sciences Consortium (NJMSC) is the Sea Grant Administrator for New Jersey.

	associated with contact with floatable wastes at the region's beaches.	
◑	5. A series of regularly scheduled clean-up days should be organized.	NJDEP, NYSDEC, NYSOPRHP, Public Interest Groups
●	6. Beach Environmental Awareness Days (BEAD) should be organized and promoted.	NYSDEC, NYSOPRHP
○	7. A one-page flyer should be provided to beach goers describing the best types of packaged goods to bring to the beach and how to dispose of them properly. The emphasis should be on food and drink containers.	NY Sea Grant, NYSDEC, MSRC
◑	8. Marina operators and U.S. Coast Guard auxiliary personnel and power squadron course participants should be provided with a one-page flyer describing how recreational boaters contribute to the floatables problem and what they can do to help alleviate the problem. This flyer should complement the NYSDEC flyers ("Stow It, Don't Throw It" and "If You See It, Report It").	CT, NJ* and NY Sea Grant, CTDEP, NJDEP, NYSDEC, NYSOPRHP, and Local Universities
○	9. Graphic displays on what the public can do to alleviate the floatables problem should be prepared and placed in public libraries.	CT, NJ* and NY Sea Grant; CTDEP, NJDEP, NYSDEC, MSRC

B. Institutional Outreach

◑	1. A concise curriculum module should be developed dealing with the full range of municipal solid waste problems including floatables	School Districts, NJMSC

	and ways to reduce the problems.	
◑	2. Panels of experts should address professional associations of elementary and secondary school educators on the problems of municipal solid wastes, including floatables, and the kinds of solutions needed.	CT, NJ* and NY Sea Grant, CTDEP, NJDEP, NYSDEC, and Local Universities
○	3. Large corporations (e.g. Westinghouse) which present assembly programs in schools on such topics as energy and the environment should be encouraged to develop or sponsor similar programs on solid waste management, recycling and floatables.	School Districts, PTAs, and Local Universities
◑	4. A nation-wide network of organizations in coastal states, (e.g., academic, public interest, governmental, etc.) committed to resolving the problem of floatables in the nation's waters should be developed. The purposes of the network should be to share data and information and to promote programs and, when appropriate, legislation to alleviate the causes of the problems of floatables.	MSRC and Sea Grant, NJMSC, Center for Marine Conservation

Actions Already Initiated

1. Stony Brook's MSRC will form a group immediately to respond to requests for presentations on floatables by professional groups or educators and other organizations over the next year. Presentations will be free; only travel costs will be charged. MSRC will provide free training and materials to other groups of presenters.

2. MSRC will convene at least three public forums during the summer of 1989. Other State, County and local organizations will be invited to cosponsor these events.

3. MSRC has produced a flyer on floatables that will be made available for reproduction and distribution by interested groups.

4. NYSDEC organized beach clean-up days in 1987 and 1988 and has already planned for 1989. In addition, certain areas are in the Adopt-A-Beach program and are cleaned several times a year. CT and NJ have similar beach clean-up programs.

5. During the summer of 1989, MSRC will design a prototype graphic display on what the public can do to alleviate the floatables problem.

6. MSRC will prepare a proposal to work with major corporations to produce and sponsor school environmental and solid waste management presentations.

7. MSRC will prepare an initial list of organizations in the Northeast U.S. concerned with the floatables problem that could constitute a prototype network and will attempt to work through the National Governors Association to expand the network and to convene a meeting at the next annual meeting of the Coastal Society.

8. New York State Marine Educators Association (NYSMEA) held a plenary session on floatable waste at its June conference, at which representatives of USEPA, NYSDEC and SCDOH spoke.

9. The Center for Marine Conservation (Washington, D.C.) has established a national communications network focused on the impact of floatable debris on living marine organisms.

10. The New Jersey Marine Sciences Consortium has a thousand square foot "museum" of coastal phenomena which serves as a classroom for teaching groups about the marine environment.

Recommendations

1. It is recommended that more Beach Environmental Awareness Days (BEAD) be organized. OPRHP sponsored a BEAD on May 20, 1989. The potential for other similar events throughout the summer should be investigated.

2. It is recommended that educational modules on municipal solid waste should be suitable for use at different levels. For kindergarten and early elementary school grades, a coloring book might be useful.

3. It is recommended that towns investigate joining the nationwide "Keep America Beautiful" organization.

4. The Center for Marine Conservation's network should be expanded to include all aspects of the floatables problem (trash, garbage, sewage-related materials, and medical-type wastes).

Some Relevant Educational Materials Currently Available

a. Floatable Wastes and the Region's Beaches: Answers to Some Common Questions A question and answer book prepared by MSRC

b. A one-page flyer on Floatables and Beach Debris prepared by MSRC

Single copies of the above are free and may be obtained from:

Marine Sciences Research Center
State University of New York at Stony Brook
Stony Brook, New York 11794 - 5000
Attn: Publications Office

c. NOAA/New Jersey Sea Grant Films on Floatables
"The Great Garbage Chase" (K-8)
"If Fish Could Talk" (9-12)

Contacts: Cornell Cooperative Extension of Suffolk County
246 Griffing Avenue
Riverhead, N.Y. 11901 *or*

New Jersey Marine Sciences Consortium
Sandy Hook Field Station, Building 22
Fort Hancock, N.J. 07732

d. NYSDEC one-page flyers, "If You See It, Report It" and tip sheets "Don't Mess with Our Beaches" and "Stow It, Don't Throw It."

e. Plastics in the Ocean: What are we doing to clean it up? (X. Augerot, 1988) Background, references and educational resources
Contact: Washington Sea Grant
Seattle, WA. 98115

f. A Citizen's Guide to Plastics in the Ocean: More than a litter problem. (K.J. O'Hara, S. Iudicello and R. Pierce, 1988)
Contact: Center for Environmental Education
1725 DeSales Street N.W.
Washington, D.C. 20036
(202) 429-5609

g. Floatable Debris -- Connecticut and New York Sea Grant Extension Program Fact Sheet #8
Contact: CT Sea Grant Marine Advisory Program
43 Maine Street
Hamden, CT 06514
(203) 789-7865 *or*
New York Sea Grant Extension Program

Sources of Additional Educational Materials

1. Connecticut Sea Grant Program
Marine Sciences Institute
University of Connecticut
Avery Point
Groton, Ct. 06340
(203) 445-5108

2. New Jersey Sea Grant
NJ Marine Sciences Consortium
Sandy Hook Field Station, Bldg. 22
Fort Hancock, N.J. 07732
(201) 872-1300

3. New York Sea Grant Institute
Duchess Hall
SUNY Stony Brook
Stony Brook, N.Y. 11794-5000
(516) 632-8737

4. National Sea Grant
College Program Office
6010 Executive Boulevard
Rockville, MD 20852
(301) 443-8923

5. Center for Environmental Education
1725 DeSales Street NW
Washington, D.C. 20036
(202) 429-5609

6. NOAA/National Marine Fisheries Service
Marine Entanglement Research Pgm.
7600 Sand Point Way
BIN C15 700
Seattle, WA 98115
(206) 526-4009

7. Marine Mammal Commission
1625 Eye Street N.W.
Washington, D.C. 20006
(202) 653-6237

SECTION 7. FLOATABLE WASTES AND THE MEDIA

Much has been said about media coverage of the floatable waste washups on area beaches in 1987 and 1988. This extensive coverage exerted a powerful influence on the public's perception of the nature and origins of floatable wastes, as well as the public health and safety risks associated with washup events. It is certain that the media will follow closely and scrutinize the impact of floatable wastes on regional shorelines during the 1989 beach season. This section focuses on enhancing the role of the print and electronic media as sources of informed, accurate information to the public about floatable wastes. Just as there is a need for officials in agencies at all levels of government to communicate effectively and share all available information on floatables, floatable events, and the human health or safety risk they present, each agency and beach operator should take steps that will ensure consistency and clarity in contacts with the media about floatable events.

ACTIONS REQUIRED

ACTION	RESPONSIBILITY
◑ 1. Prepare a comprehensive directory of beach operators and contact persons in cognizant local, state and federal agencies for floatable events. Distribute.	NYSDOH, WMI
◑ 2. For all major floatable washups, prepare fact sheets for use by media. Fact sheets should include location of washup, description of material, response(s) taken, name and telephone number of contact person.	Beach Operator, NYSOPRHP (BIN)
○ 3. Disseminate (FAX) fact sheets on floatable events to the two State hotline numbers immediately and to all subscribers as soon as possible.	Beach Operators, NYSOPRHP
● 4. Develop public service announcements promoting the high quality of the beaches in the tri-state region.	NYSDED, NJ Tourism Bureau
○ 5. When a beach experiences a floatable event, the beach operator is responsible for keeping his	Beach Operator

staff appropriately informed. Each beach operator will have a procedure for dealing with the media about floatable events.

6. Establish a scientific information source base for media inquiries.	MSRC, WMI, NY Sea Grant

Activities Already Initiated

1. NYSDED Division of Tourism has established a toll-free consumer tourist information telephone number, 1-800-CALL-NYS, whose service included daily updates on beaches. The number is being publicized through a public service advertising campaign. The NJ Tourism Commission has a tourist information telephone number, 609-648-SAND.

2. NYSDED has created a Long Island Beach Speakers Bureau to respond to the press on issues relating to Long Island beaches.

3. The NJ Tourism Commission has begun an advertising campaign to reassure beach goers and promote beach use.

Recommendations

The offices serving the NJ and NY tourist information telephone lines should have fax machines to receive fact sheets regarding floatable events.

GLOSSARY

AIDS (Acquired Immune Deficiency Syndrome) A group of symptoms caused by the infection by a particular virus, the Human Immunodeficiency Virus (HIV).

Beach Operator_The person appointed to oversee beach operations on site.

Biodegradable plastics One form of enhanced degradable plastics (the other form is photodegradable), using cornstarch or other material in the polymer matrix that microorganisms break down readily into smaller and smaller pieces of plastic. Photodegradable plastics rely on sunlight to break them down.

Blood vials Glass vials with caps used by medical personnel to hold samples of blood.

Climatology Meterological conditions of a region, usually averaged over 30 years (in contrast to weather, which is the state of the atmosphere at a particular time).

Coliform bacteria Rod-shaped bacteria associated with the gut of mammals. These are the harmless bacteria that are counted in seawater to give an indication of the possible presence of human feces.

CSO (Combined Sewer Overflow) The excess volume of water reaching the sewage treatment plants, usually during storms, which is too large to go through treatment and thus flows directly into coastal marine waters. The cause of this problem is the outmoded sewage system found in the New York metropolitan region that combines septic and storm sewers.

Floatable wastes Any articles of garbage, trash, litter, and septic sewer wastes that float and do not readily break up--wood, tampon applicators, and plastic cups are all floatable wastes.

Freshet A flood or overflowing of a river from heavy rains or melted snow.

Grease balls (Also called "fat balls") Coagulation of animal and vegetable fats disposed of via kitchen sink waste water.

HIV Human Immunodeficiency Virus, the virus responsible for causing AIDS.

Litter Trash and debris thrown into streets and roads or left on beaches by people.

Marine transfer station (MTS) A facility where garbage and trash collected by trucks is offloaded to barges for the purpose of transporting the wastes to the Fresh Kills landfill.

Medical waste Any wastes that are generated from the care of patients, including non-infectious, infectious, chemical, radioactive, and general waste, such as from food service.

Medical Waste Tracking Act (MWTA) A 10-state program mandated by the federal government requiring physicians, dentists, veterinarians, small clinics, laboratories and hospitals to keep detailed records that follow a particular medical waste from origin to disposal--much like bills of lading for cargo. New York, New Jersey and Connecticut are required to participate in this program for two years.

Meteorology The science that deals with the atmosphere and atmospheric phenomena; the study of weather and climate.

New York Bight The portion of the ocean extending over the continental shelf southeast of Montauk Point, New York and east of Cape May, New Jersey and along the northern New Jersey shore and Long Island shore.

Ocean dumping Waste materials hauled to sea by vessels or barges for the express purpose of disposing of the wastes in the ocean.

Pathogens (pathogenic organisms) Any microorganism or virus that can cause disease.

CLEAN OCEAN ACTION
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Testimony on Behalf of Clean Ocean Action, at a Hearing before the Senate Subcommittees on Water Resources, Transportation, and Infrastructure, and Superfund, Ocean and Water Protection regarding S. 506 and Floatable Pollution in the New York Bight at the World Trade Center, New York, New York, on June 19, 1989.

My name is Cindy Zipf, Coordinator of Clean Ocean Action, a coalition of over 120 environmental, labor, realty, fishing, boating, diving, women's, community and citizens groups representing over 400,000 citizens; as well as 250 individual businesses dedicated to clean up the waters off the New York and New Jersey Coasts.

First, I would like to thank the Committees for coming to the the core of the problem to discuss these important issues. From the 43rd floor of the World Trade Center, we have a bird's eye view the sources of the problems effecting the "New York Bight."

The New York Bight, are those waters off the shores of Long Island and New Jersey. It is at the receiving end of the effluents and pollution problems coming from the most densely populated, urbanized areas in the country -- over 20 million people live and work along its landward boundaries. Since the early development of the area, the Metropolitan areas waste disposal problems have been solved by the nearest waterway.

The topic is floatables. The flotsam and jetsam which our eyes can see. There are many sources. I will discuss several.

The harbor plays host to one of the largest ports in the nation. The Port of New York and New Jersey handles more general cargo than any other port in the US. In addition, cruise ships, military ships, and recreational boats. These vessels all generate and need to dispose of large amounts of garbage. One story by a commercial fisherman describes his net filled with plastic champagne glasses 15 miles offshore. He attributes them to a cruise ship.

Several regulatory and legislative initiatives to control the above problems are in effect. The Act was recently passed to implement Annex V of MARPOL, the Interational Maritime Treaty to Prevent Pollution from Ships. The Coast Guard developed domestic regulations to ensure compliance with the International Convention, although, it is too early to say whether or not the regulations will curb the dumping of garbage by ships. The regulations are complex and will require continual over sight.

As an example, I would like to express concern over recent news accounts regarding plastics. An article appearing in the Asbury Park Press on Saturday June 17, 1989: refered to the implementation of the law "adopted from an international agreement" One can assume this is the Marine Plastic Pollution Prevention Act. Coast Guard Lt. Steven O'Malley, discussed the rules of the law which prohibits the dumping of any plastic materials between 3-12 miles, but that the law stipulates"plastics can be dumped beyond 12 miles , but must be ground through a garbage disposal before being dumped into the ocean. If indeed this proves to be true, it is an injustice to the marine environment and those that are seeking to reduce the amounts of plastic in the ocean. Simply changing its form does not lessen its effects. In fact, it may be more damaging since more marine animals can eat these smaller particles.

Swift action should be taken to rectify this matter.

State and local officials have also stepped up the battle against trash dumping in or near waters. NJ has increased the number of Marine Police, increased funding for street sweeping and beach sweeping.

The harbor region also contains approximately 100 landfills, however the most famous, and the largest is the Fresh Kills landfill in Staten Island. Over 28,000 tons of garbage are barged to the Fresh Kills daily.

At Fresh Kills some measures to reduce the amount of garbage dumped into the waters were made. However, none of these are [redacted]. No open hauling of trash should be permitted in any harbor. A law requiring total containerization of the solid waste disposal system and a tracking system should at minimum be established to halt the blatant, or carless discharge of garbage in the harbor.

Although these efforts are likely to reduce the amounts of of trash and garbage on beaches, one major source of floatables in the inner harbor needs fast action, the Combined Sewer Overflows, or CSO's. In 1972 the USEPA had identified these "non-point sources" as major problem, funding and controls are lacking. Adequate funding and strict controls of these sources must be made a priority.

When it rains..it pours.

Over 680 Combined Sewage Outfalls drain the entire harbor area. During periods of rain greater than .25 inches, these pipelines are the conduits for all the street filth, raw sewage and industrial waste generated in the Metropolitan NJ/NY area. The Interstate Sanitation Commission had done the work on the mapping of CSO's. According to the ISC it is impossible to estimate the billions of gallons of waste water that flows through these pipes when it rains. It boggles the mind just thinking of how much raw sewage, street filth and industrial waste gushed into the estuary in the last two months. May had over 10 inches of rain, June to date, had over 7.5.

As an aside let's not forget the countless storm drains along the coasts of New Jersey and New York (Long Island) coasts contribute their share of floatables into local wasters. These pipes also can contribute raw sewage and toxics.

Focus and leadership will be needed to fix the CSO crisis. The tragedy is no matter how much money we spend fixing sewage treatment plants, which is a necessary and important task,

Initial attempts are being made. Federal regulatory actions to collect "garbage slicks" in the harbor, which often times follow storm events were developed in an attempt to stop the slicks from getting to shores. On a bi-state effort, criminals were paid to pick up trash on beaches in the inner harbor areas.

The collection of debris in the water is a focus of today's hearing. COA endorses S. 506, which make this program law. While COA supports short term initiative which would take floatables out of the water, the real task is to keep the floatables out, stop them at the source.

Specific suggestions are as follows:

Federal approval for litter laws enforcement, street sweeping, source reduction (plastic bans, recycling) and other local programs could be encouraged. One suggestion would be to require that environmental problems and solutions be taught in federal approved school systems throughout all disciplines. That would send a strong signal to the nation.

To reduce floatables, require that all CSO's be equipped with screening devices to collect small and large material at the end of the pipe. Public works crews would be charged with the maintenance of these grates, and the collection of the debris in them. This relatively simple task could be implemented within 1 year.

The ISC should also receive some federal support, financial or otherwise . As a tri-state entity, it often falls victim to the political rollercoaster in any state. It is important to have tri-state support, but it is an effective watchdog and needs stability to get the job done.

Funding:

Fixing CSO's is a big problem. NJ is sitting on a bill which would establish a bond of $120 million to begin fixing CSO's. New York has a program under way to fix CSO's but with fiscal one crisis after the other, it is highly unlikely, the states can stick with a program. To fund the fixing of the old infrastructure problems, is going to make someone unhappy. One suggestion would be to require a fee attached per room to any new development in the areas where CSO's are located. Its silly for new developments to tap into the existing infrastructure. In addition, perhaps some transportation funds can be used for retrofitting street drains to better stop debris from entering drains.

Other local or state funding suggestions:

Anyone caught dumping waste down any street drain should pay a penalty, increasing the more times caught; the funds to be used to fix CSO's and other storm water problems.

Using criminals to clean up debris in streets, and in the sewers would keep costs down.

I would like to very briefly to end the verbal testimony discuss one of the most poorly regulated, blatantly unlawful "legal" activities which generates floatables in the ocean, woodburning. NJ has the only sight in the nation for woodburning. The sight is 17 miles off Manasquan, NJ. Currently, no permits exits, although EPA is allowing woodburning to continue which was included in expired permits.

A picture's worth a thousand words, and I submit for you pictures of the barbaric backyard BBQ which occures frequently off the Jersey coast between September through May. These pictures were taken by Mr. Jim Reme, of Spring Lake Heights, NJ on June 28, 1986. Wood from the inner harbor which is coated with preservatives and pesticides is collected and piled up on flatbed barges. The material is then pulled by tug out to the sight and ignited. The burning can last up to 60 hours. When most of wood is burning, the "wash down" occurs. Water is pumped over the coals and ash and into the ocean. The result is polluted air, polluted water, and often times floatables. Wood frequently falls off the barges which creates public health threat to boaters and bathers. It also floats up onto beaches resulting in dirty beaches and costly clean ups for communities.

This issue needs focus and attention. This dumpsite can be closed off the Jersey Shore soon. It is unconscionable EPA has been allowed to blatantly violate so many laws for so long.

I would like to end here. Thank you for the opportunity to testify.

The question is not whether or not collecting the old piers and foating wood harbor is needed, it is. The alternative which is currently used is unacceptable. Other alternatives exist or can be developed but until recently EPA has felt no pressure on this issue. After the successful battle to stop ocean incineration, Clean Ocean Action sought the help of the Oceanic Society, which was one of the lead groups on the issue, to help stop the incineration of toxic waste at the woodburning sight.

Woodburning is regulated under the Ocean Dumping Act. In addition to the Ocean Dumping Act, this activity must comply with several domestic and international legal requirements before a permit can be issued. According to extensive investigation by the Oceanic Society's attorney, Sally Lentz, woodburning fails to comly with any applicable laws. I submit for the record a copy of the comments submitted by the Oceanic Society on behalf of CLean Ocean Action and others.

The report concludes the current woodburning activities fails to comly with the London Dumping Convention. The Ocean Dumping Act, the National Environmental Policy Act (NEPA), the Endangered Species Act. The Coastal Zone Management Act (CZMA), the Clean Air Act, and worker safety regulations.

A quick overview as to the failure to comply with these laws is listed below.

The London Dumping Convention: Requires the destruction efficiencies are in excess of 99.9 per cent, and does not approve of open burning. In addition, LDC regulations requires data collection during each incineration operation. To the best of our knowledge, in all the years of woodburning, only one such test was done, and on a half filled barge.

Ocean Dumping Act: The ODA clearly prefers designation beyond the Continental Shelf. The Act requires that permits for incineration activities be issued only as research or interim until specific regulation can be adopted. EPA has issued "interim" permits for over 12 years. In general, EPA has failed to meet the research and environmental criteria in the Act.

-NEPA: EPA has failed to publish an environmental Impact Statement regarding the permitted activity or the site.

- CZMA: The CZMA requires that a federal permit whose activities effect land or water uses in the coastal zone of a state, must obtain approval of from the effected states. No such approval has been granted by NJ or NY. EPA argues, unsuccessfully, that the ODA preempts CZMA.

-the Endangered Species Act: EPA has never indicated it has performed the necessary analysis to show that endangered species in the vicinity are being properly protected.

-Clean Air Act: Woodburning takes place outside the federal jurisdiction of the Clean Air Act, however, EPA determines that the woodburning activity results in compliance of the CAA "along the shoreline" and therefore does not violate the act.

-Worker Safety Regulations: EPA has never required applicants to develop worker safety plans as required of incineration facilities on land by the Occupational Safety and Health Administration (OSHA).

-RCRA: EPA has classified creosote as a hazardous waste, and intends to add others. Therefore all wood is classified as Hazardous Material and must comply with RCRA.

The EPA region II which has jurisdiction over this activity has failed to protect the marine environment and human health. It is unconscionable that EPA has been allowed to go on for this long. No permits should be issued until EPA can prove that wood burning will comply with the above laws and enforcement of these laws is guaranteed.

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Testimony of the

Natural Resources Defense Council, Inc

before the

Senate Committee on Environment and Public Works

Subcommittees on Water Resources, Transportation and

Infrastructure, and Superfund, Ocean and Water Protection

on

S. 506 and Floatable Waste In New York Harbor

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The Natural Resources Defense Council (NRDC) is a national non-profit organization with over 100,000 members and a professional staff of attorneys and scientists dedicated to protecting public health and the environment. NRDC has worked closely with members of Congress in support of federal controls on medical wastes, and with officials from the New York State Department of Environmental Conservation (DEC), the New York City Department of Environmental Protection (DEP) and the New York City Department of Sanitation (DOS) on such issues as sewage treatment and municipal solid waste management.

The issue of floatable waste is not new to New York Harbor. Indeed, New York City was one of the last cities in the nation to end open dumping of its municipal solid waste in the 1930's. However, the events of the last two summers and this year as well, in which more than 100 miles of beaches were closed in New York and New Jersey because of washups of floatable waste, demonstrate that significantly more action and resources need to be allocated if we are to enjoy our coastal resources and protect the public health and the environment from floatable waste. We therefore appreciate the opportunity provided by your invitation to NRDC to share our research and recommendations on floatable waste in the New York Harbor region.

1. S. 506 should be supported as an important interim measure.

Since May 15, 1989, the joint federal, state and local effort, known as the "Floatable Action Plan,"[1] to monitor and collect floating debris in the New York/New Jersey Harbor complex has collected 260 tons of debris.[2] Preliminary assessments of the collected waste indicate that about 90% of the debris is wood (dock pilings and construction debris), 4% are plastics, and 3% are tires.[3] It is likely that much of this material would have found its way onto our shores or posed other hazards to navigation had the material not been collected. There is, however, no guarantee that the program will continue beyond September 15, 1989.

S. 506 proposes to require on a permanent basis that

> the New York harbor collection and removal drift project is further modified to direct the Secretary of the Army to collect and remove all floating material whenever the Secretary is collecting and removing debris which is an obstruction to navigation.[4]

NRDC supports S. 506 as an interim measure. The Floatable Action Plan should be an on-going program until more preventative steps to control floatable waste are taken.

2. Existing efforts do not prevent beach closings and washups on floatable waste.

Since Memorial Day weekend, there have been 40 beach closings on account of sewage contamination in New York, New Jersey, and Connecticut. The sewage overflows in New Jersey were accompanied by medical waste.[5] Moreover, there were three reported incidents of persons being punctured by syringes at Robert Moses State Park over the Memorial Day Weekend.[6] These incidents are not limited to the New York metropolitan region, but are occurring throughout the nation's coastal areas.

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[1] See "Million-Dollar Floatables Action Plan Outlined For Summer of '89," United States Environmental Protection Agency, Region 2, March 7, 1989.

[2] Personal communication with Patrick Durack, EPA Region 2, June 14, 1989.

[3] *Id*.

[4] S. 506, 101st Cong., 1st Sess. §1 (1989).

Despite the federal, state, and local efforts to investigate the sources of beach pollution[7] and clean up the beaches, and despite the New York City Department of Sanitation's investment of $35 million for netting to cover the city's garbage barges[8] and upgrade operations at the Fresh Kills Landfill, floatable waste and beach closings will continue to be a problem for the following reasons:

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[5] See "Connecticut Sewage Leak Halts Swimmers," *The New York Times*, May 27, 1989, "Swimming Warning Issued on L.I. After Sewage Spill," *The New York Times*, June 3, 1989, "Hempstead Harbor Closes Its Beaches After Sewage Spill," *The New York Times*, June 5, 1989 at B3, "3 New jersey Beaches Closed," *The New York Times* June 9, 1989 at B2, and "Sewage Runoff in L.I. Sound Closes Westchester Beaches," *The New York Times*, June 11, 1989 at Sect. 1. 39.

[6] "More Needles at Beach, 3 jabbed on weekend, but turnout is good," *Long Island Newsday*, May 30, 1989 at 23.

[7] See New York State Department of Environmental Conservation Report, *Investigation: Sources of Beach Washups in 1988*, December, 1988, United States Environmental Protection Agency Region 2, *Floatables Investigation*, March 16, 1988, and New Jersey Department of Environmental Protection, *Floatables Study: Possible Sources, Transport, and Beach Survey Results*, August 3, 1988. The New York City Department of Environmental Protection is also conducting a study on the sources of floatable waste, pursuant to Local Law 60 of 1988.

[8] Pursuant to the Shore Protection Act Sec. 4103(a)(2), 33 U.S.C. §2603(a)(2).

a) Combined sewer overflows (cso's).

Combined sewer overflows are identified as a major source of sewage contamination and floatable waste. In the New York Harbor region, close to 500 cso's release 560 million gallons during an average seven-hour storm.[9] In fact, "it takes a rainfall intensity of only a few hundredths of an inch per hour for an hour or more in the metropolitan area for sewage treatment plants to be bypassed."[10] Sewage overflow occurs regularly, even in dry weather. A recent EPA report to Congress also indicated that New Jersey has approximately 5000 stormwater pipes that discharge directly into coastal waters, which are completely unregulated at this time.[11]

NRDC's review of 1987 data reveals that only four of New York City's fourteen sewage treatment plants routinely met the Clean Water Act's July, 1988, deadline for secondary treatment,

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9. Report to Congress, March 1989, on the New York Bight Plastics Study, Section 2302, Subtitle C of the Marine Plastic Pollution Research and Control Act of 1987, Title II of the United States-Japan Fishery Agreement Approval Act of 1987, P.L. 100-220, at 10. (hereinafter EPA Report to Congress). See also New York City Department of Environmental Protection, City Wide Combined Sewer Overflow Study, Final Report, Capital Project No. WP-112, November, 1986 at 3-5.

10. See Testimony of Dr. R. Lawrence Swanson, Director, Waste Management Institute, Marine Sciences Research Center before the U.S. House of Representatives Committee on Merchant Marine Fisheries, Subcommittee on Fisheries and Wildlife Conservation concerning Coastal Pollution, Jones Beach, N.Y., September 6, 1988 at 13.

11. EPA Report to Congress at 9.

and that five of the plants were at or above their design capacity for periods of six months. Additionally, 5 to 6 million gallons per day of raw sewage are discharged directly into coastal waters by the Tottenville area of Staten Island, New York.[12] No resolution of this problem is expected until 1993. It is clear that the pilot cso abatement programs that are underway in New York and New Jersey are unable to resolve the problems of the magnitude discussed above.

b) Medical waste tracking regulations are deficient.

The federal medical waste tracking regulations, which will take effect in New York, New Jersey, and Connecticut on June 22, 1989, continue to permit medical wastes, including syringes and infectious liquids, to be discharged into sewer systems. The tracking regulations contain numerous other deficiencies that undermine the effectiveness of the tracking program mandated by Congress in response to the public's outrage at the mismanagement of medical waste.[13]

c) Additional federal recommendations are inadequate.

In its report to Congress, EPA states that "Federal Agencies should provide leadership, and continue formal and informal coordination activities related to marine debris with

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12. Id., at 7.

13. See Testimony of Allen Hershkowitz, Ph.D. on behalf of the Natural Resources Defense Council, Inc. before the Oversight and Investigations Subcommittee of the House Merchant Marine and Fisheries Committee on the Problem of Floatables Pollution in the New Jersey-New York Harbor Complex, Normandy Beach, New Jersey, May 22, 1989.

international organizations, state and local, governments, private industry, and environmental groups."[14] While the report calls for federal leadership, the recommendations for controlling floatable waste primarily focus on state and local actions.[15] This is not an adequate federal response.

Specifically, EPA fails to provide cost estimates, recommend additional appropriations or funding, or institute enforceable deadlines for municipalities to make the necessary improvements to their combined sewer systems. EPA also fails to identify specific remedies for cso abatement. These glaring deficiencies in the Agency's program suggest, that, in effect, there is no comprehensive federal cso abatement program for the New York Harbor region.

3. NRDC Lawsuit Over New York State SPDES Permits.

In light of the magnitude of the problem, NRDC challenged the legality of the SPDES permits issued by the New York State Department of Environmental Conservation (DEC) in September, 1988, for New York City's fourteen sewage treatment plants. In April, 1989, a state court justice ruled that DEC violated the law on certain procedural matters, and ordered that the state hold an evidentiary hearing to address NRDC's concerns that the permits need to be tightened.[16] NRDC believes that the hearing is likely to begin in the fall of 1989. NRDC plans to address such issues as pretreatment, toxicity limits for sewer effluent and sludge, combined sewer overflows, and sewage capacity.

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[14] EPA Report to Congress at 2.

[15] *Id.*, at 22.

4. Additional measures are required.

In addition to existing programs, NRDC recommends that at least six other steps be taken to control floatable waste. First, the legal practice of discharging any type of medical waste into the sewer systems should be prohibited outright. This practice is explicitly prohibited in West Germany, Sweden, and Switzerland, three countries NRDC has visited to research this issue. Not only are wastes discharged without assurance of adequate treatment, but the practice also contributes to the misimpressions that the sewers systems are suitable for other wastes as well.

Second, federal, state, and local agencies should develop a comprehensive public education program aimed at ending the use of toilets as garbage receptacles. In addition to the thousands of syringes that are captured by sewage treatment plant screens each year or escape into the coastal waters, personal hygiene products constitute a large segment of the floatable waste stream. The public must be made aware of this disgusting contribution to floatable waste.

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[16] See Interstate Sanitation Commission et al. v. Thomas C. Jorling, et al., No. 16492-88 (April 17, 1989, Supreme Court, Queens County).

Third, EPA must develop a framework for the management of patient care waste generated at home. EPA has excluded all medical waste generated in the private home from regulation. Instead, the Agency is preparing guidance on the handling of certain household medical wastes. The proposed "coffee can" approach, which recommends that used syringes be enclosed and disposed of in such a container, is a very limited response to the ten of millions of syringes that are introduced annually into the municipal solid waste stream and sewers systems. EPA's "coffee can" approach may also subject waste recyclers to enormous occupational hazards. It should be replaced with a more coherent policy.

In addition, EPA should establish a national program for the return and proper disposal of used and outdated medicines. The medical waste tracking regulations do not currently address used medicines. In contrast, West Germany, Sweden, and Switzerland require pharmacies and medical facilities to accept used medicines, although the public is not required to return medicines.

Fourth, consideration should be given to strict controls on construction waste. Recent indictments on Staten Island, announced on June 15, 1989 and preliminary data on collected floatable debris indicate that these wastes are also being mismanaged and illegally dumped in the New York metropolitan area.[17]

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[17]

Fifth, steps should be taken to ensure disposal capacity for waste generated by recreational boaters. EPA estimates that approximately 27,000 tons of trash are generated by recreational boaters in the New York Harbor region each year.[18]

Finally, open wood burning at the 17 mile site off of New Jersey should be prohibited. The burning conditions are unacceptable, and the Memorial Day - Labor Day grace period, during which burnings are not permitted, do little to protect the public from navigation hazards, pilings crashing ashore, and air pollution during the other periods of the year.

Floatable waste continues to come ashore. We do not know if there will be any beach closings this year on account of floatable waste. However, we do know that there have been at least 40 beach closings in New York, New Jersey, and Connecticut since the Memorial Day weekend. We are outraged by what we view as the federal government's attempt to lower the public's expectations for clean and safe beaches and coastal waters.

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[18] EPA Report to Congress, at 12.

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STATEMENT OF MORRIS H. KRAMER, ENVIRONMENTALIST, BEFORE THE SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS SUBCOMMITTEES ON WATER RESOURCES, TRANSPORTATION AND INFRASTRUCTURE, AND SUPERFUND, OCEAN AND WATER PROTECTION ON S. 506 AND FLOATABLE WASTE IN NEW YORK HARBOR AND ELSEWHERE

JUNE 19, 1989

INTRODUCTION:

THE WRITER BELIEVES THAT HE HAS MORE EXPERIENCE WITH AND KNOWLEDGE OF FLOATABLE WASTES ON LONG ISLAND'S SOUTH SHORE THAN ANYONE ELSE BASED UPON HIS MORE THAN TWENTY YEARS OF BEACH OBSERVATIONS AND ACTIVITIES IN THIS FIELD. BACKGROUND IS ATTACHED.

COMPARISONS: BEACH WASHUPS 1988 TO 1989 HEARING DATE, ATLANTIC BEACH, LONG ISLAND, NEW YORK

Atlantic Beach, Long Island is the Westernmost portion of Long Beach Island adjacent to New York City. Thus, variable forms of floatable wastes from New York City usually impact this area first before impacting other Long Island South Shore areas.

Often, the impact is heavier than elsewhere and floatable waste episodes occur more frequently than elsewhere due to water current and wind conditions.

Substantially more hypodermic needles have washed ashore in this several mile area in 1989 than in 1988. Most of the needles contain the orange needle covers. Some needles actually contain the words Insulin Use. This means that Diabetics in the New York Metropolitan Area have received information and are reattaching the needle covers before flushing them down toilets in New York City.

There are also some needle covers washing shore and a few other items that can accurately be labeled as medical wastes.

There has generally been more floatable wastes of all types washing ashore in 1989 to date than in 1988. This can be documented

Substantially more and larger chunks of wood including more than 50 foot long tree trunks have washed ashore this year.

STATEMENT OF MORRIS H. KRAMER, PAGE TWO, CONTINUED

This writer cannot recall a time when such large amounts of wood have impacted area beaches.

The writer believes that several factors may be responsible for this startling increase in floating wood items. They are:

1. **The U.S.E.P.A. Floatables Action Plan which this writer has endorsed in the media, at public hearings, etc., may be in part, backfiring,** because the substantial amount of time the Army Corps. of Engineers boats are gathering plastic and other similar small and light types of floatable wastes **is taking away from the time that the C.O.E. would normally be using to pick up floating wood in New York Harbor**.

2. Heavy rains in the New York City area may have been responsible for more wood becoming loose and ending up in Rivers and other waterways. But, beach and other pre-season cleanups should have acted as a counter balance.

3. The writer believes that increased carting fees, landfill restrictions and closings have led more small businesses and individuals to **deliberately dump wood items into waterways** as a means of disposal. And, that this practice will increase in the future.

On June 17th and 18th, the weekend before this Hearing substantial numbers of potentially toxic oil/greaseballs washed ashore along several miles of beaches. They ranged in size from small one quarter inch to one liter bottle sizes. The writer notes that similar oil/greaseballs were the main cause for closing 125 miles of Long Island beaches in the Summer of 1976.

Oil/greaseballs are formed when a plastic item is present, at minimum a single fecal coliform bacteria is present and of course oil or grease. The oil/grease encapsulates the bacteria and the plastic and acts as an incubator. The coliform count can increase to several millions. While coliform is an indicator bacteria and thus not harmful, its presence may indicate the presence of other harmful substances as well. That is why they are potentially toxic.

A person walking or jogging on the beach may step on one, if if there is an open cut, theoretically at least, that person may have a potential problem. Similarly, a small child can pick up a small oil/greaseball, think it is candy and eat it. (The writer is personally aware of a dog that did this in 1980 and heroic efforts were required to save it.) And, a swimmer can accidentally ingest a small ball while swimming.

Obviously, these oil/greaseballs should not be on beaches or in bathing waters, or in the marine environment to harm fish, etc.

The main sources of these oil/greaseballs are New York City's Combined Storm Sewer Systems. Although, U.S.E.P.A. has stated that if the necessary ingredients described above are present, oil/greaseballs can form in open waters.

In brief summary, there have been more floatables wastes washing ashore more frequently in 1989 to the date of this Hearing than in 1988. This writer believes that the main cause of this has been a natural pre-season flushing of New York City's CSOs due to heavy and frequent rains. The writer feels strongly that most of this with the exception of the oil/greaseballs and hypodermic needles has been most beneficial which will be discussed later.

U.S.E.P.A. FLOATABLE ACTION PLAN:

The Floatable Action Plan is the first positive step to be taken to attempt to contain and prevent floatable wastes from leaving New York Harbor since these problems became public concern in 1976. It has succeeded to some degree. That so many Federal, State and local Agencies coordinated and worked so well together should be worthy of commendation and notice by elected officials.

But, there are too many drawbacks and the plan must be amended, enlarged and used for longer time periods. This should be discussed before voting on S. 506.

While there was extensive media coverage of New York City's drought, it applied to the City's upstate reservoirs, not the City itself where there was substantial and frequent rainfalls this year. This enabled the CSO's to overflow frequently and thus be flushed and washed out into New York Harbor and then into the Ocean. Hence, there were three extensive washups in the month of March.

Had there been a situation with no rain for a month or two and then a substantial rain, the overflows from the CSOs' would have completely overwhelmed the Floatable Action Plan with the subsequent closings of beaches and the resulting public concerns which could have led to a repeat of last Summer's problems.

Actual example: Last Summer there was a floatable waste slick extending from Long Island Sound into and down the East River into the New York Harbor and out by the Rockaways in the Ocean. This slick would have overwhelmed the Floatable Action Plan had it been in effect at that time and resulted in great public attention, concern and criticism.

In 1976, this writer at the House Joint Hearing of the Subcommittee on Fisheries and Wildlife Conservation and the Environment and the Subcommittee on Oceanography suggested the following: "...Finally, every year until all the necessary sewage disposal plants are completed or upgraded in N.Y. Harbor, from the months of March through October, have one Agency using booms that normally contain oil spills, containing floating matter that comes out of the Harbor on outgoing tides and such a manner that it

does not interfere with navigation.

This can be done rather easily, as the area is commonly called the Narrows because it is so narrow.

This is highly important. I have previously mentioned the psychological damage that has taken place, Any recurrences of this problem, this Summer, or early next Spring can ruin the economy of the South Shore of Long Island..."

In a sense, these 13 year old comments prescribe what still needs to be done today.

Accordingly, this writer submitted a more detailed proposal in his Statement to the House Subcommittee on Fisheries and Wildlife Conservation and the Environment Hearing held at Jones Beach, Long Island last Summer. A copy of the Proposal is attached and it is requested that it be entered and considered as part of this Statement.

After reviewing what has happened since then, this writer proposes the following:

1. Any Floatable Action Plan must begin in the beginning of March. Material in New York Harbor at that time can float out into the Ocean up to 100 miles offshore, slosh around for a month or two and then when the Summer southerly winds begin, float back toward the coast.

2. That New York City CSO's must be "flushed" in the Spring as per this writer's September 1988 proposal.

3. That the C.O.E. driftwood debris efforts be expanded to include the use of additional craft and booms that can work twenty four hours a day with enhanced lighting conditions to capture wood and other floatable wastes. Example: Two barges could be stationed by the Verrazano Bridge (the Narrows) with a floating boom between them. They should be appropriately designated and illuminated so as not to interfere with navigation. They can stop and contain driftwood and other debris. Subsequently, the C.O.E. driftwood boats can pick up the debris, and also "skimmer" boats similar to those used at New York City's Fresh Kills landfill.

At this point, one must emphasize the increasing importance of wood as a "floatable problem." Previously, the main concern was that it was potentially hazardous to navigation. With an increasing public interest, however, in marine recreational activities such as more private boating, fishing, wind surfing, jet skis, scuba diving, snorkeling, water skiing and swimming the hazard potentials increase. In shore and near shore areas and inland bays all of the above compete for use of the same waters. A pleasure boat may swerve to avoid some wood and run over a swimmer, etc.

Wood is often harder to spot from a moving craft than a brightly colored floatable water. It's often deceptive to to spot because a substantial portion may be beneath the surface.

STATEMENT OF MORRIS H. KRAMER, PAGE FIVE, CONTINUED

4. The East River is regarded as the main source of the CSO floatable waste problem. Accordingly, a barge and boom combination similar to the one suggested for the Narrows should be set up near Hell Gate as it leads toward Long Island Sound. This can help prevent floatable waste from adversely affecting the Sound. More important, by containing the floatables including wood in the East River at both ends, it can serve to effectively trap the floatables in the East River, enhance and make clean up efforts more efficient and effective and pose less of a threat to the marine environment and marine recreational resources.

5. There can be certain rather easy steps to be taken to break up the floatable waste slicks in the East River, even if only temporarily, and to aerate the waters to lessen Biological Oxygen Demand, bacterial concentrations, etc., and thus result in less pollution and Dissolved Oxygen problems for Long Island Sound, and possibly New York City, Long Island and New Jersey Ocean bathing beaches as well.

It is vitally important to prevent, if possible, floatable wastes from leaving New York Harbor. It is difficult if not impossible to pick up floatable wastes once they enter the Ocean. And, while one can predict with a reasonable degree of accuracy given sustained wind conditions, this is not necessarily the case when there are frequent changes in wind direction.

Thus a large several miles long or long floatable wasted slick in the Ocean can inadvertently hold even larger areas of beaches at bay in anticipation of the wastes washing up. This is similar to hurricane forecasting. People are urged to evacuate a large area while in reality only a small area is impacted. In reference to floatable wastes, once a large Ocean floatable waste slick become a media item as it should, the hurricane type warning effect may serve to turn people off from the beaches.

All of the above is necessary and costs substantially more money that has so far been allocated to the Floatable Action Plan. Thus, it must be realized that funding must be appropriated and budgeted for these improvements. As last Summer,s experiences demonstrate, the alternative is more expensive many times over.

Also, one must understand that the Floatable Action Plan is only a palliative for this problem. And that in the context of time, it is a "permanent" not an "interim" plan.

The present timetable for New York City to correct its CSO problems extends past the year 2000. New York City, however is on the verge of its next financial crisis. Thus, anything short of legislation or Court orders will result in further delays in this program.

Unfortunately, New York City despite every form of public and official pressure has lagged very far behind when it comes to sewer related construction and maintenance.

STATEMENT OF MORRIS H. KRAMER, PAGE SIX CONTINUED

Example: In July 1988, a power shortage caused the Port Richmond, Staten Island sewer plant to pour untreated sewage into area waterways resulting in beach closing. The facility did not have a backup generator. It still does not, one year later. This writer submits that practically every other major United States City would have installed a backup generator by now.

Example: Last Summer amidst all the beach washups and closings, the New York Times reported that New York City had cut its street cleaning personnel by one third. Earlier this year, New York Sanitation Commissioner Brendan Sexton stated in a New York Times interview that he "has no budget for street cleaning." In June 1989, it was announced that New York City's Street cleaning personnel would be cut further.

Frankly, if New York City will not clean its street, it cannot really expect its' citizens to clean the streets either. When one considers the dense population of the City, the amount of garbage and litter in the Streets is astronomical. This washes into sewers when it rains and then into the Rivers and subsequently onto bathing beaches. Similarly, strong winds in certain areas blow the litter into rivers with the same results.

Thus, if New York City cannot even clean its' streets, it is quite obvious that they will not complete their CSO program in the expected time period, thus necessitating an expanded and for all intents and purposes a permanent Floatable Action Plan.

MEDICAL WASTE:

This writer based upon his experience with floatable wastes firmly believes that so-called red medical waste bags were deliberately dumped in the marine environment in recent years. One beach was closed in 1987 in Atlantic Beach, Long Island because a red medical waste bag washed ashore. And, reliable sources have told this writer that they actually saw red medical waste bags in the marine environment in 1988.

The writer believes that due to certain Oceanic conditions and illegal dumpers lack of knowledge, that just about all of the illegally dumped medical wastes prior to Summer 1988 have since washed onto the surface waters and impacted land. Subsequent illegal medical waste dumping probably has been done by other methods. Example: Dumping needles down New York City sewers so that when it washes up on beaches, it will be blamed on drug addicts.

There have been comments from many high officials that last year's medical wastes that were turned in on Long Island amounted to less than one shopping bag. This is absolutely wrong. This writer personally turned in more than one shopping bag. Also, in many areas, where commercial operators were involved, medical wastes were dumped in garbage cans and not reported.

ADDITIONAL SUGGESTIONS:

AUTOMOTIVE BATTERIES: Last Summer, for the first time, this writer noticed automotive battery caps and covers floating up on beaches. This has also been observed in 1989 to date.

It means that people or businesses are deliberately dumping these highly toxic batteries into the marine environment.

Accordingly, this writer recommends that New York, New Jersey and Connecticut pass legislation requiring substantial deposits on such batteries as a means of reducing their being dumped into the marine environment and the overall environment as well and to also raise funds for waste disposal projects.

OIL\GREASEBALL RESEARCH: These are potentially toxic as previously described. The writer believes that research as to possible health hazards of these balls never really got off the ground in a meaningful manner and that any minor research ended at the end of the 1970's. Since then, new chemicals, products, etc., have been introduced which may become included in the formation of the balls. Are these balls now more potentially toxic?

So too, there has been a startling increase in the Hepatitis virus in the N.Y.C. Metropolitan Region. This is a hardy virus that can last in the marine environment. What will happen if it ends up in these balls? And, we are also aware of the discovery of marine resistant bacteria.

It is obvious that until New York City completes it CSO abatement program sometime in the next century, we will still have these oil/greaseballs befouling the marine environment being digested by marine life and possibly entering the food chain and also washing up on beaches.

Therefore, it is necessary to renew research regarding the potential toxicity of these oil/greaseballs.

BLOOD AND INFECTIOUS LIQUIDS: NRDC has been a leader in protesting the continual use of sewage systems as receptors for these items. There may be additional merit to their comments as it may/may not relate to the potentially toxic oil/greaseballs as stated above.

Given the unsatisfactory state of New York City sewer plants ranging from insufficient treatment to over capacity, it would appear that Executive Orders issued by City and State Health Commissioners could lessen these problems to some degree.

Example: The Executive Order should rule that hospitals and other medically related facilities should be required not to pour blood, etc., down drains during and after rains for a certain time period. Additionally, that such fluids should not be poured directly but poured in conjunction with running water in order to lessen the concentration. This can become an immediate step to lessen potential problems especially during warm weather months where the potential for harming the marine environment is higher.

STATEMENT OF MORRIS H. KRAMER, PAGE EIGHT, CONTINUED

DREDGING OPERATIONS: These should not be conducted in New York City rivers, New York Harbor and Westernmost Long Island Sound from March 1st until October 15th every year unless an emergency navigational hazard occurs. These restrictions should remain in force at least until New York City completes its CSO abatement program.

The dredging process is not perfect and places some very toxic materials in the water column. This is also a time when migratory fish species start coming to these area waters.

Additionally, any oil or grease, etc., that floats to the surface can admix with floatable slicks, etc., and possibly cause oil/greaseball formation. This writer strongly believes that a part of the 1976 floatables problem that closed 100 miles of Long Island beaches was caused by the COE emergency dredging project to permit Op Sail to berth in the East River.

SODA CANS AND BOTTLES: These are major floatable waste items on beaches. The writer advocates raising the deposit to 25 cents per container as a means of deterring reckless abandonment of these items to the marine and land environments, and also as a fund raising method.

Additionally, cans and bottles from New Jersey impact Long Island shores. They lack refund notices on their tops. Accordingly, New Jersey should pass similar legislation.

LATE SUMMER RIVER FLOW AUGMENTATION EFFORTS: Dr. Malcolm Bowman, SUNY MSRC notes that in late Summer the entire sewer discharge from New York City into New York Harbor exceeds the entire Hudson River discharge into the Harbor. Simply, we are discharging more sewer related water than natural water into the Harbor. This writer believes that this is not conducive to the marine environment. And, the marine environment can be degraded further if there are rain storms during that time period which produce CSO overflow and floatable waste slicks in the Rivers, New York Harbor and Long Island Sound. (This is one reason that this writer suggests breaking up and aerating floatable waste slicks as previously described.)

This writer believes there are several approaches that can be implemented to alleviate the natural versus the sewer related flow differentials into the Harbor resulting in less harm to the marine environment. They are:

1. There already exist a variety of statistical components wherein (let's use August as a hypothetical example) we can at recommended specific times and sites augment fresh water flows into the Rivers. This can be accomplished by using existing facilities and current personnel to minimize financial costs. This approach can have many options available and be highly adaptable for maximum results.

2. Depending upon reservoir levels and drought conditions small amounts of reservoir water can be released to augment river flow down to the New York City Area when appropriate.

3. Numbers 1 & 2 can be combined and used when appropriate.

FLOATABLE WASTE SEMI-MANIFEST SYSTEM: In July 1988, plastic DYMO bands containing names and numbers began floating ashore in Atlantic Beach, Long Island. The information seemed to indicate that they originated in New Foundland. New York State Department of Environmental Conservation reported that they were part of fish shipments to the Fulton Fish Market in Manhattan, New York, and since they were inserted in fish ~~heads~~, they were not sold for consumer use. Accordingly, lobstermen bought the fish heads and used them as bait for their lobster pots five to seven miles out in the Ocean. When, the bait was eaten or decomposed, the plastic bands made their way to the surface and floated to Atlantic Beach. This was the first time this writer had ever seen these items. Subsequently, an article appeared in a fishing publication about these items. Please see attached article.

In August 1988, however, this writer began noticing and gathering all sorts of these plastic bands (which are used as seals) with various companies names and numbers on them. Many of these bands looked as if they had gone through some sort of sewer processing. Most of the bands came from transportation companies, and one well known retailer that had no connection with the marine environment. These bands usually floated ashore with floatable wastes. And, they are still coming ashore in 1989.

The writer believes that these bands can be used as the base for an inexpensive semi-manifest system of tracking floatable wastes and current movements.

Example: Whoever makes these bands and ships them in the first place has a record of where and when shipped and to whom and what date it was received. Subsequently, some bands wash out into the marine environment and some on to beaches. Beach clean up personnel, lifeguards, fishermen, etc., can pick up these bands and submit them with the appropriate information to the proper organization recording this information. The organization can then send a form letter to the originator of the band asking for details of its shipping. This forms the basis for the system.

Example: U.S.E.P.A. is now using similar bands as seals on sludge boats. The Ship Riders stationed on these boats to insure against illegal dumping, can drop seals at various points from point of departure, etc., as another method of measuring current movements.

Example: This can be expanded further on a planned basis and for specific events since a base for the plan will already exist.

1. Bands can be deployed at the onset of the Spring runoff from upstate New York down the Hudson River.
2. During rainstorms at designated sites
3. On the occasion of oil spills, and other marine environmental emergencies, etc.

4. The bands can also be used by lobstermen, other fishing groups, etc., as previously described, with the results included as part of the overall research project.

NOTE: This writer realizes that dumping plastic in the American waters violates Marine Plastic Pollution Research and Control Act of 1987. But, that these dumpings will be for research purposes only, and for the purpose of lessening further floatable pollutions including massive amounts of plastics.

SUMMARY:

The floatable waste situation affecting Long Island's South Shore as it relates to this veteran environmentalist's observations are that this is as abnormal ~~year~~ up to this Hearing's date. That because of frequent record breaking heavy-rains over a several months span in the New York City area, large amounts of floatable wastes washed out in many small scattered slicks into the Ocean and that only small portions have washed up on beaches to date. That on a normal year's rainfall and normal wind conditions (last year's winds were abnormal) the floatable wastes washing up on Long Island beaches would have been substantially more extensive this year.

Wood, however,-floating in the marine environment and washing up on beaches has become more extensive than in recent years.

The writer strongly supports S-506, but only if it is realized that it is a first step in a multi-step approach, and that more has to be done, requiring appropriate commitment and budgeting. Otherwise, this writer believes that it may all backfire at some future time, resulting in a permanent economic loss to Long Island.

This writer believes that substantial numbers of persons have turned away permanently from beach going for a number of reasons, not limited to pollution but including pollution. And, that others will join them when and if another major pollution episode occurs.

II

101ST CONGRESS
1ST SESSION

S. 506

To authorize the Corps of Engineers to collect and remove all floating material wherever it is collecting and removing from New York Harbor debris which is an obstruction to navigation.

IN THE SENATE OF THE UNITED STATES

MARCH 3 (legislative day, JANUARY 3), 1989

Mr. LAUTENBERG (for himself and Mr. MOYNIHAN) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

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A BILL

To authorize the Corps of Engineers to collect and remove all floating material wherever it is collecting and removing from New York Harbor debris which is an obstruction to navigation.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. COLLECTION OF FLOATABLES.—That the New York Harbor collection and removal of drift project is further modified to direct the Secretary of the Army to collect and remove all floating material whenever the Secretary is collecting and removing debris which is an obstruction to navigation.

SEC. 2. AUTHORIZATION.—There are hereby authorized to be appropriated to the Secretary of the Army such sums as may be necessary to carry out this Act.

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